20STG 8R90900T

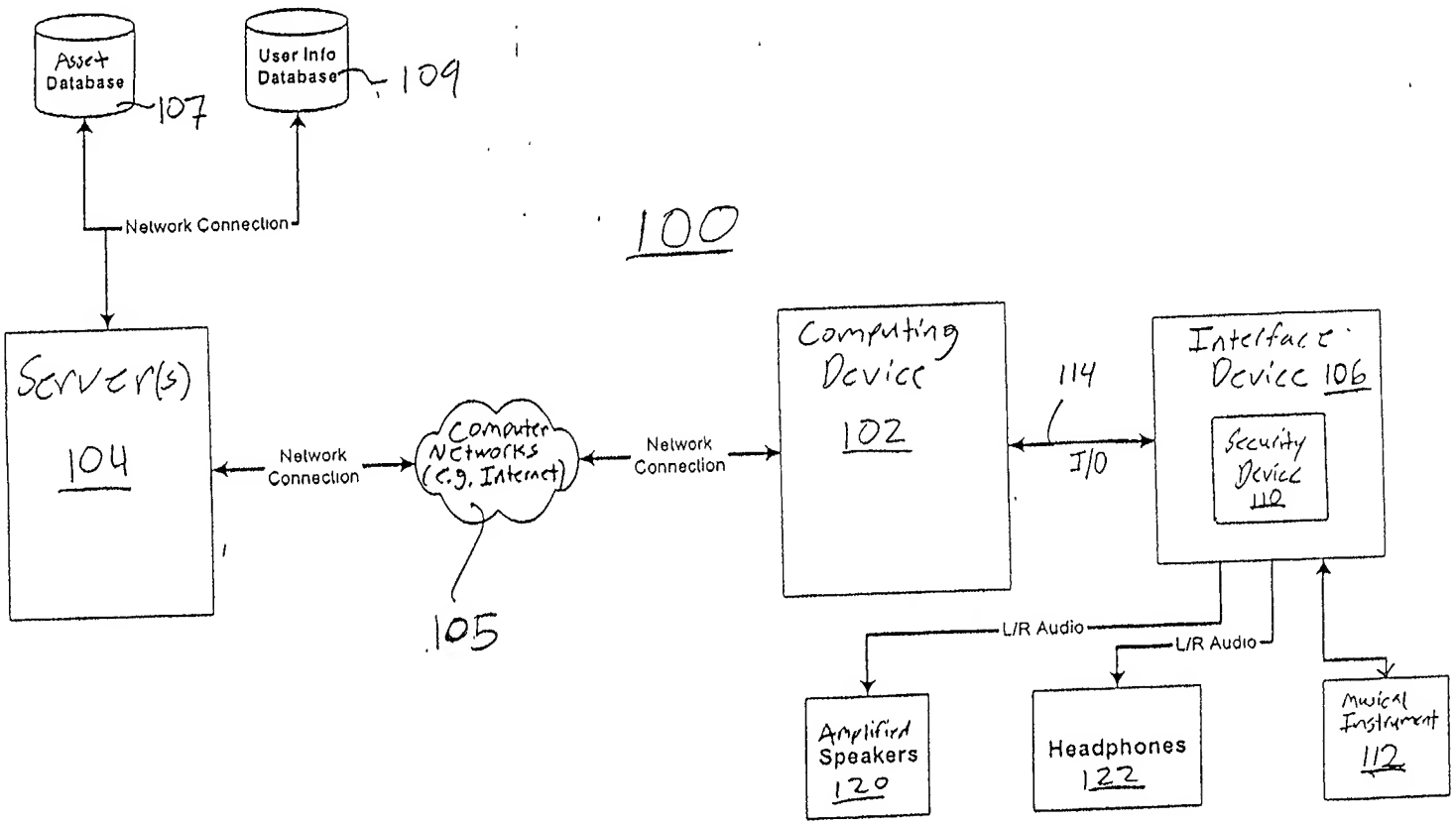
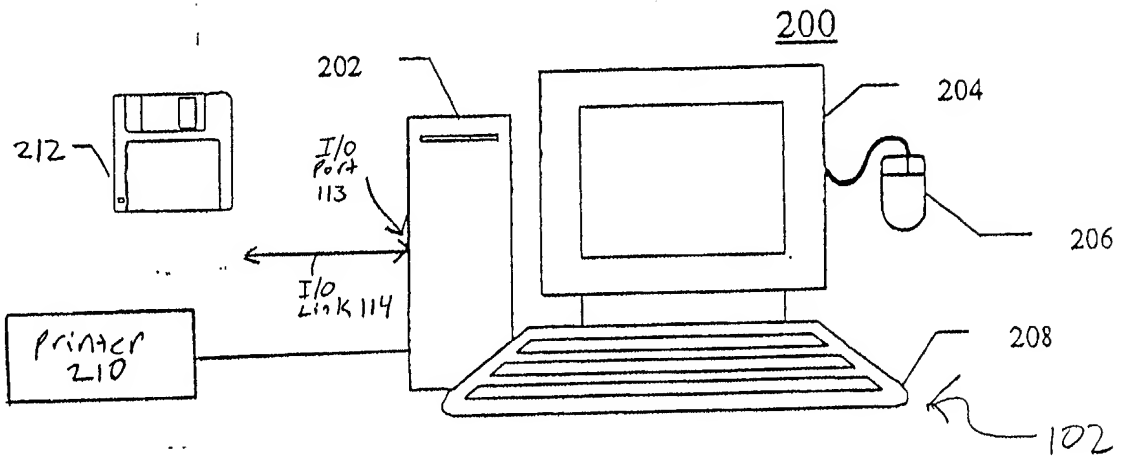


Figure 1

20370 6/30/2004

Figure 2a



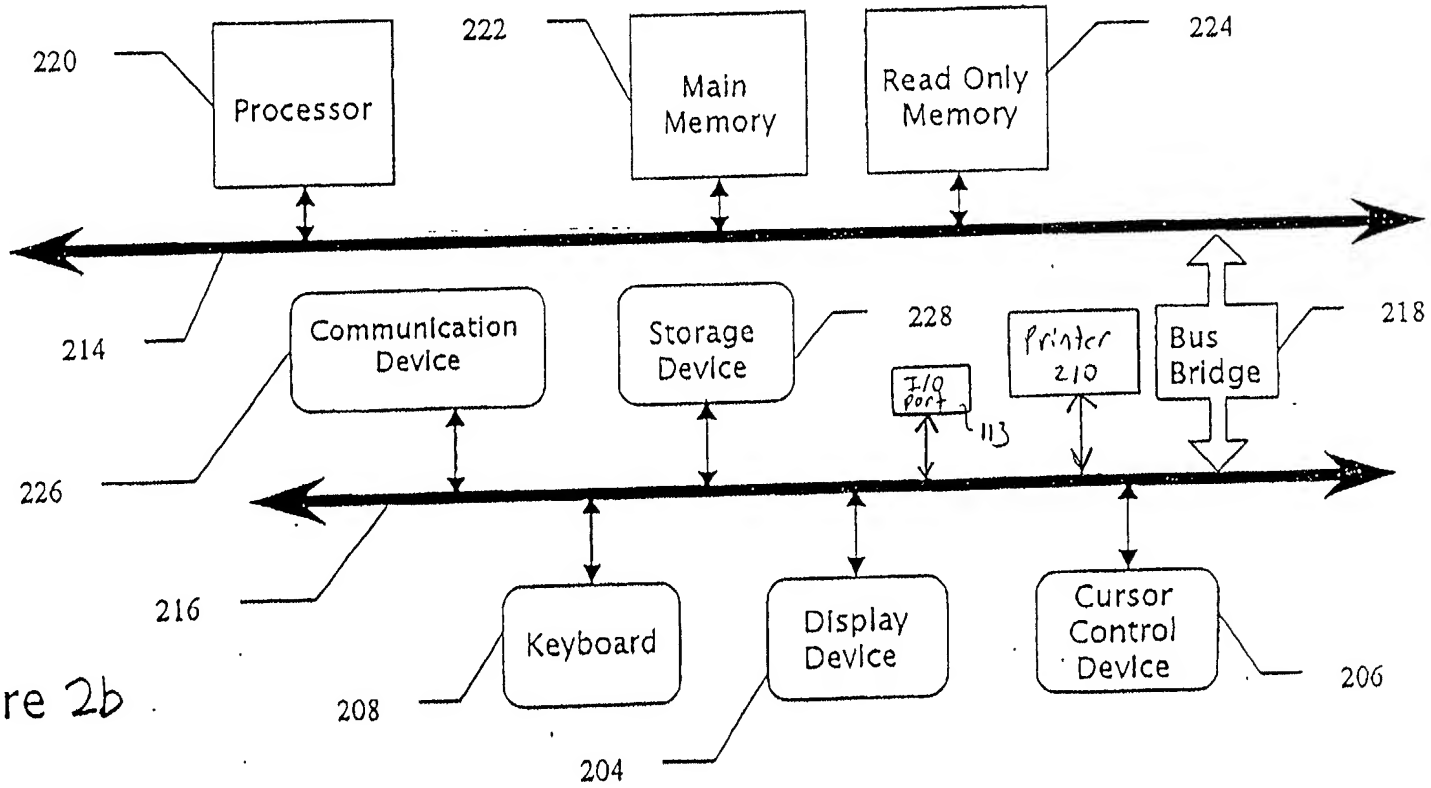
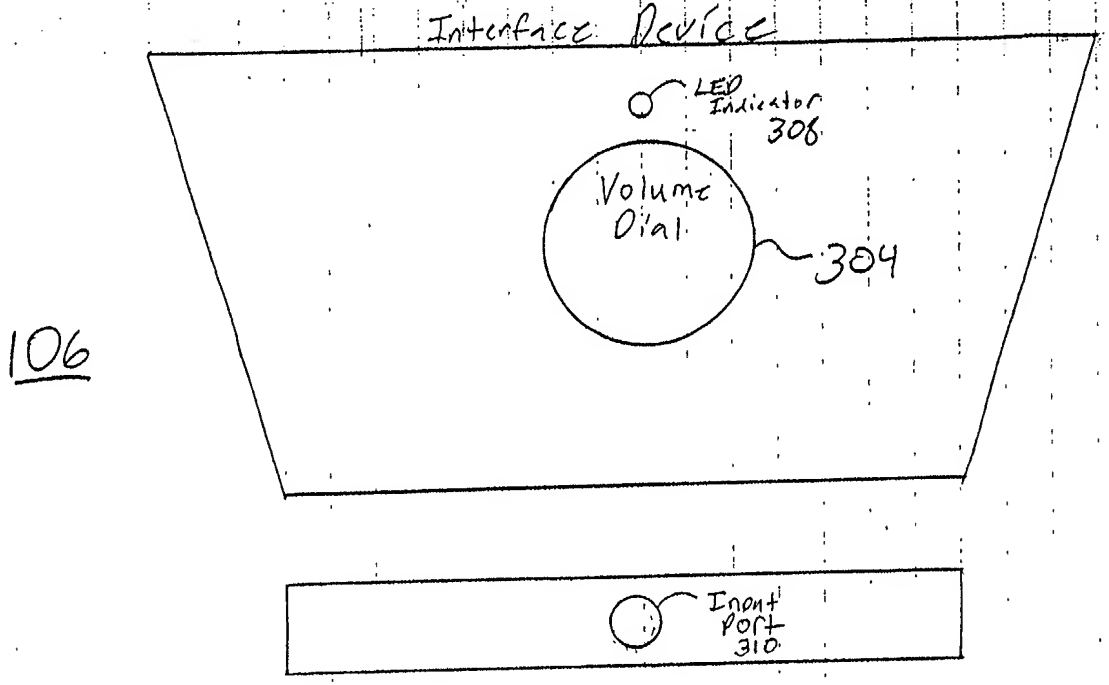


Figure 2b

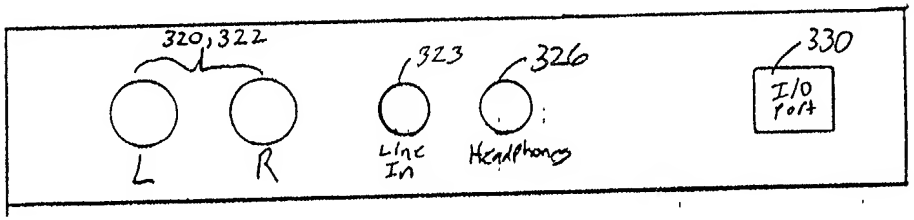


Top View

Figure 3a

Front View

Figure 3b



Back View

Figure 3c

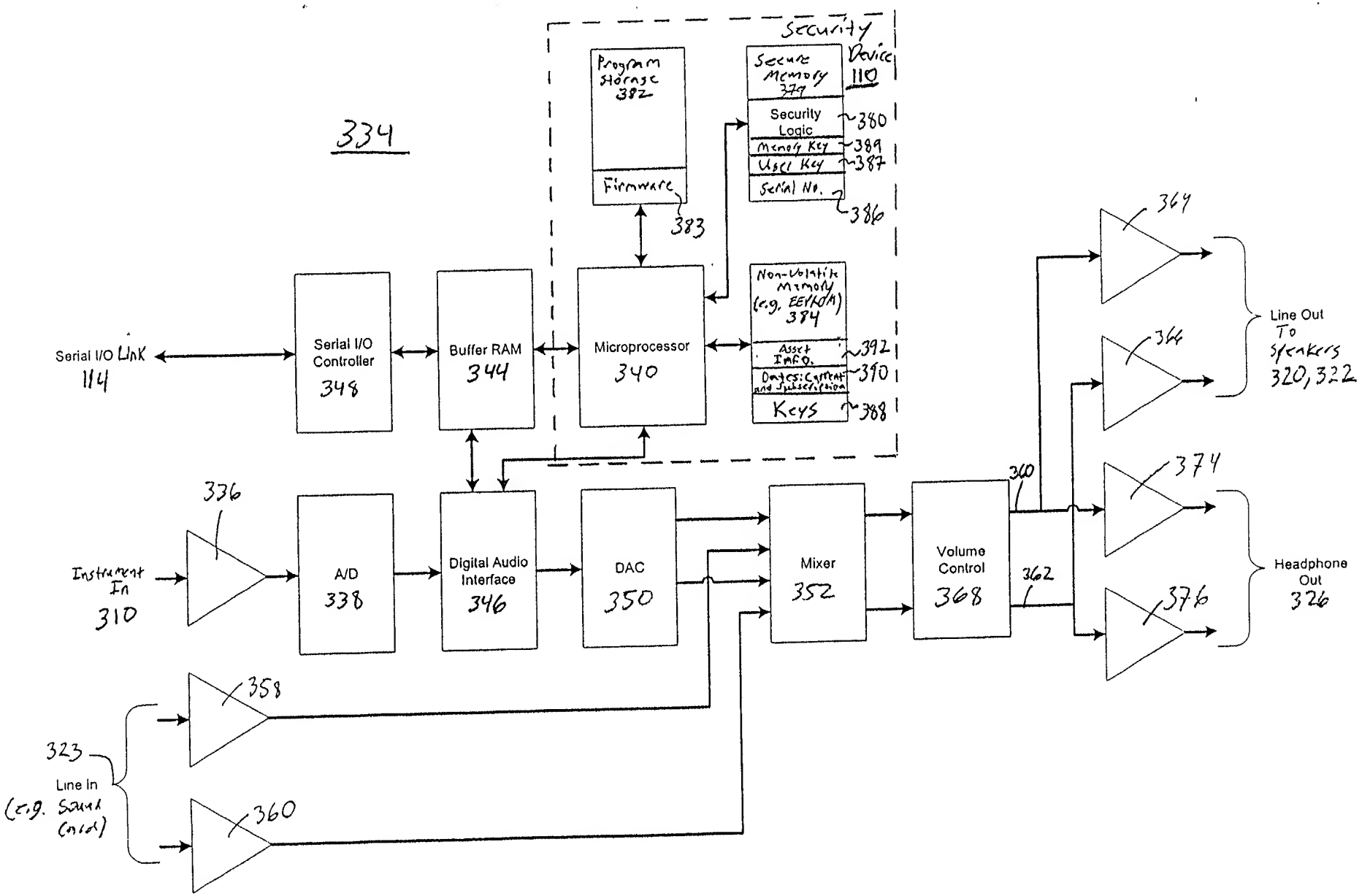

334
Security Device 110
Program Storage 382
Firmware 383
Secure Memory 379
Security Logic 380
Memory Key 389
User Key 387
Serial No. 386
Non-Volatile Memory (e.g. EEPROM) 384
Asset Info. 392
Keys 388
Serial I/O Link 114
Serial I/O Controller 348
Buffer RAM 344
Microprocessor 340
Instrument In 310
336
A/D 338
Digital Audio Interface 346
DAC 350
Mixer 352
Volume Control 368
360
362
364
364
374
376
Line Out To Speakers 320, 322
Headphone Out 326
323
Line In (e.g. Sound Card)
358
360

Figure 3d

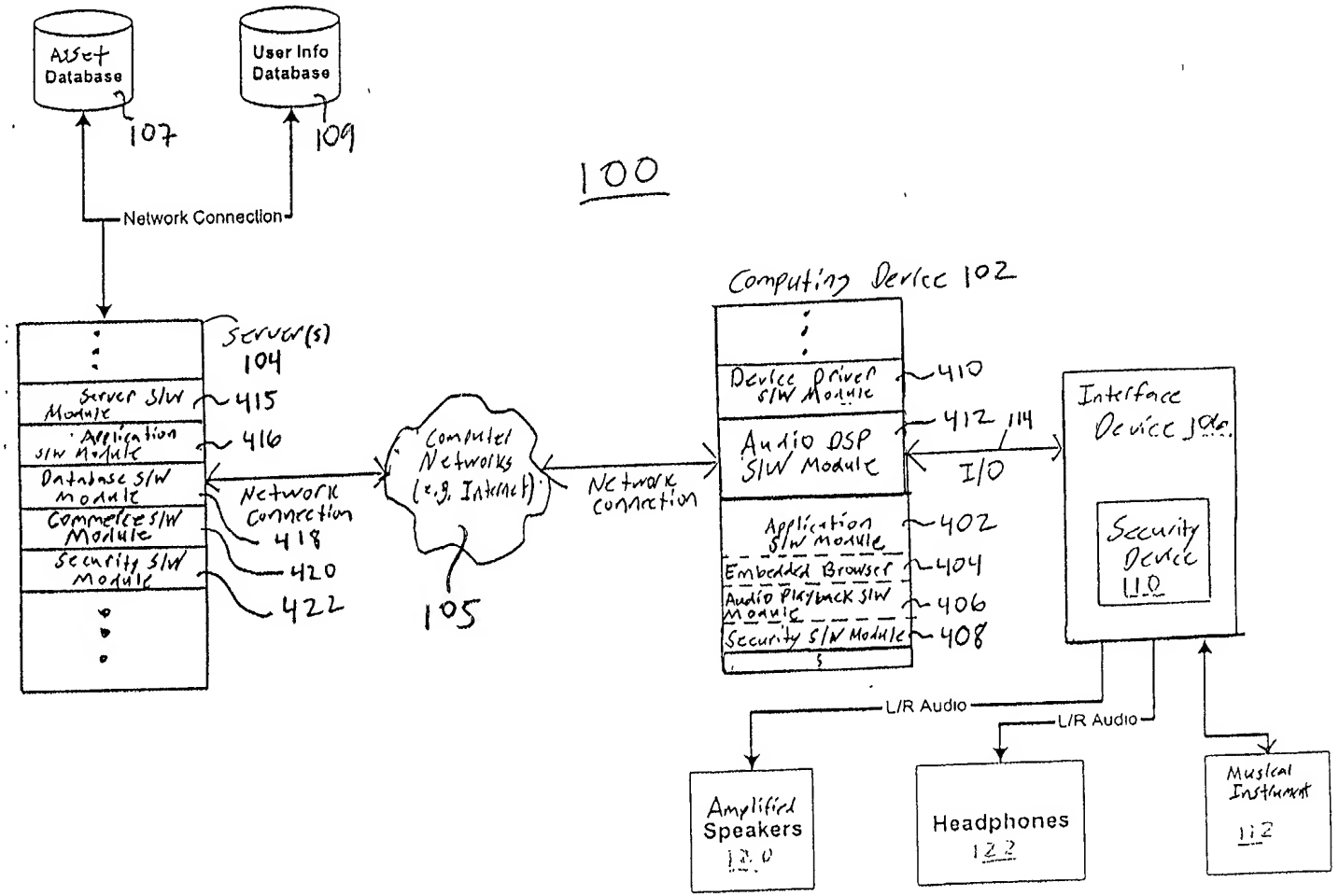

Asset Database
107
User Info Database
109
100
Network Connection
Server(s)
104
Server S/W Module
415
Application S/W Module
416
Database S/W Module
Commerce S/W Module
Security S/W Module
Network Connection
418
420
422
Computer Networks (e.g. Internet)
105
Network connection
Computing Device 102
Device Driver S/W Module
410
Audio DSP S/W Module
412
I/O
114
Application S/W Module
402
Embedded Browser
404
Audio Playback S/W Module
406
Security S/W Module
408
Interface Device 106
Security Device 110
L/R Audio
L/R Audio
Amplified Speakers 120
Headphones 122
Musical Instrument 112

Figure 4

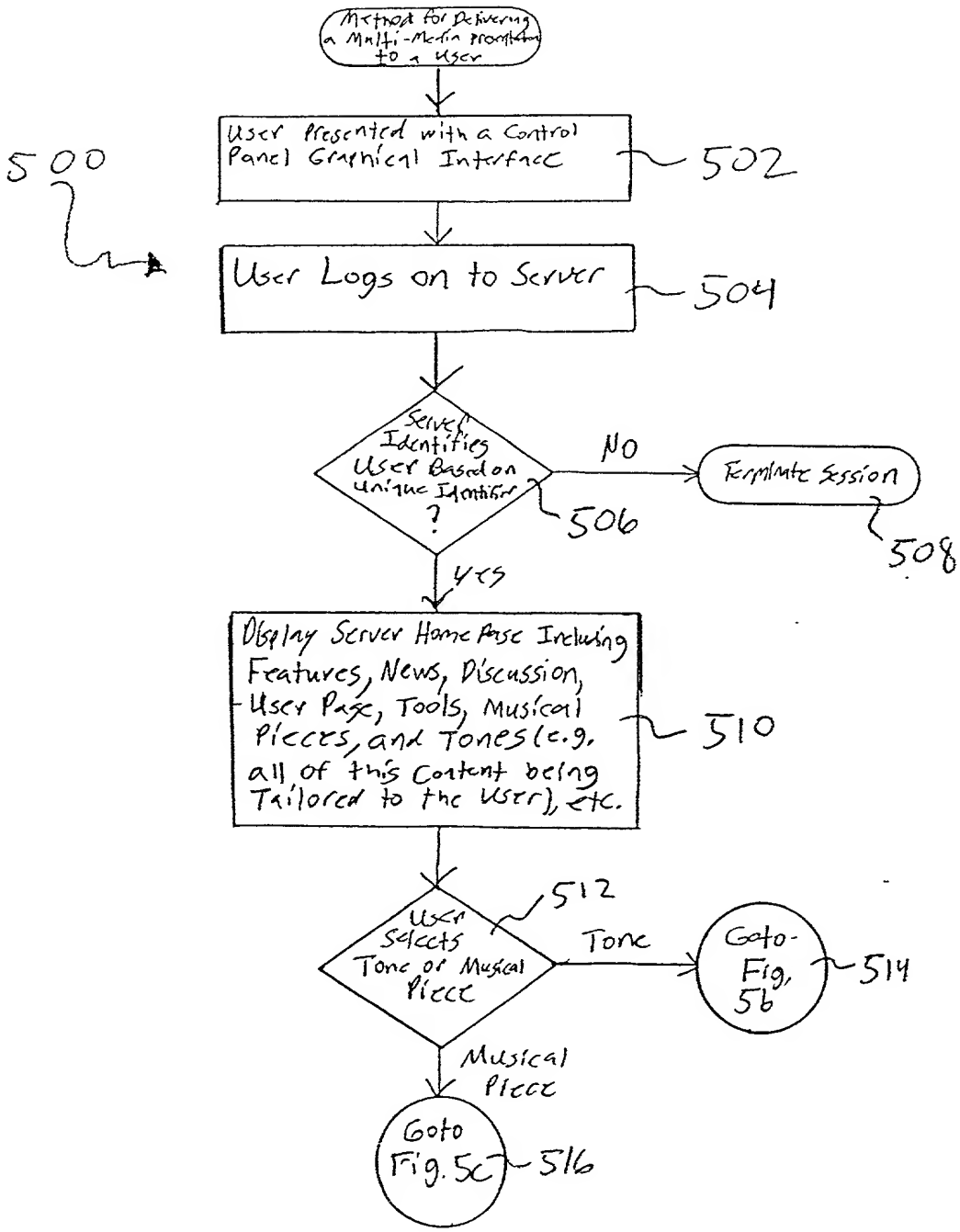

Method for Delivering a Multi-Media prompt to a User
500
User Presented with a Control Panel Graphical Interface
502
User Logs on to Server
504
Server Identifies User Based on Unique Identifier ?
506
No
Terminate Session
508
Yes
Display Server Home Page Including Features, News, Discussion, User Page, Tools, Musical Pieces, and Tones (e.g. all of this Content being Tailored to the User), etc.
510
User Selects Tone or Musical Piece
512
Tone
Goto Fig. 5b
514
Musical Piece
Goto Fig. 5c
516

Figure 5a

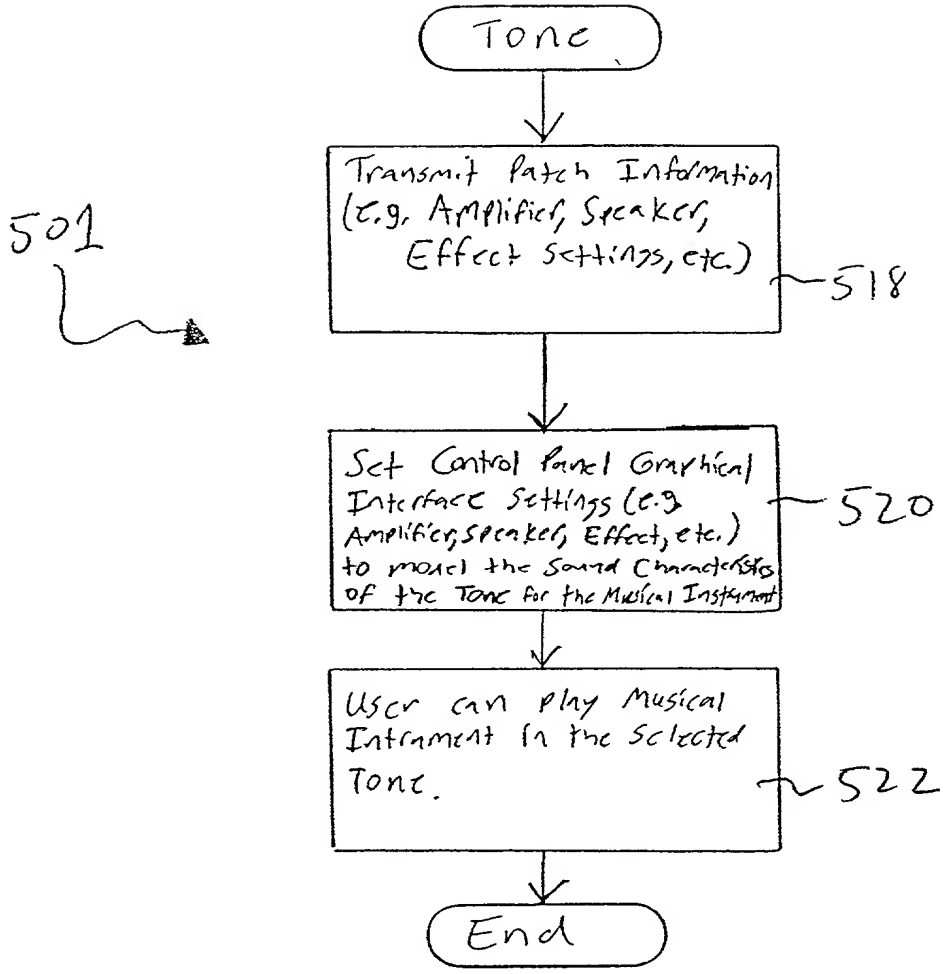

Tone
Transmit Patch Information (e.g. Amplifier, Speaker, Effect Settings, etc.)
518
501
Set Control Panel Graphical Interface Settings (e.g. Amplifier, Speaker, Effect, etc.) to model the Sound Characteristics of the Tone for the Musical Instrument
520
User can play Musical Instrument in the Selected Tone.
522
End

Figure 5b

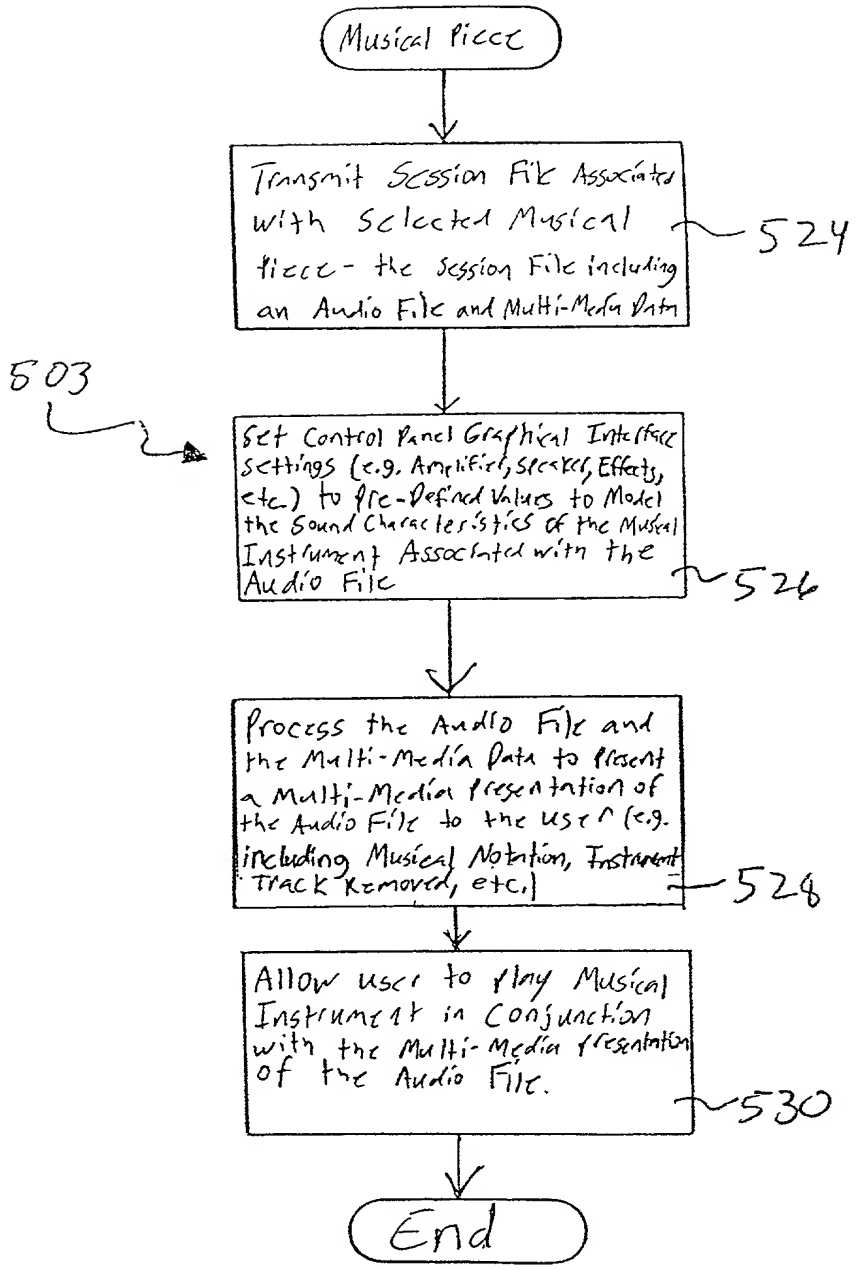

Musical Piece
Transmit Session File Associated with Selected Musical Piece - the Session File including an Audio File and Multi-Media Data
524
503
Set Control Panel Graphical Interface settings (e.g. Amplifier, Speaker, Effects, etc.) to Pre-Defined Values to Model the Sound Characteristics of the Musical Instrument Associated with the Audio File
526
Process the Audio File and the Multi-Media Data to Present a Multi-Media Presentation of the Audio File to the User (e.g. including Musical Notation, Instrument Track Removed, etc.)
528
Allow user to play Musical Instrument in Conjunction with the Multi-Media Presentation of the Audio File.
530
End

Figure 5C

Session File

539

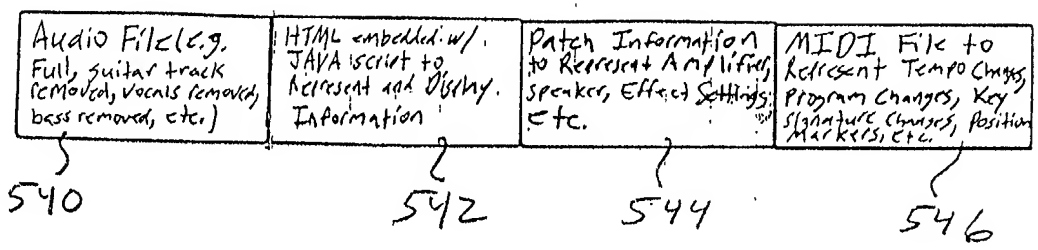


Figure 5d

20070 dn3dsuot

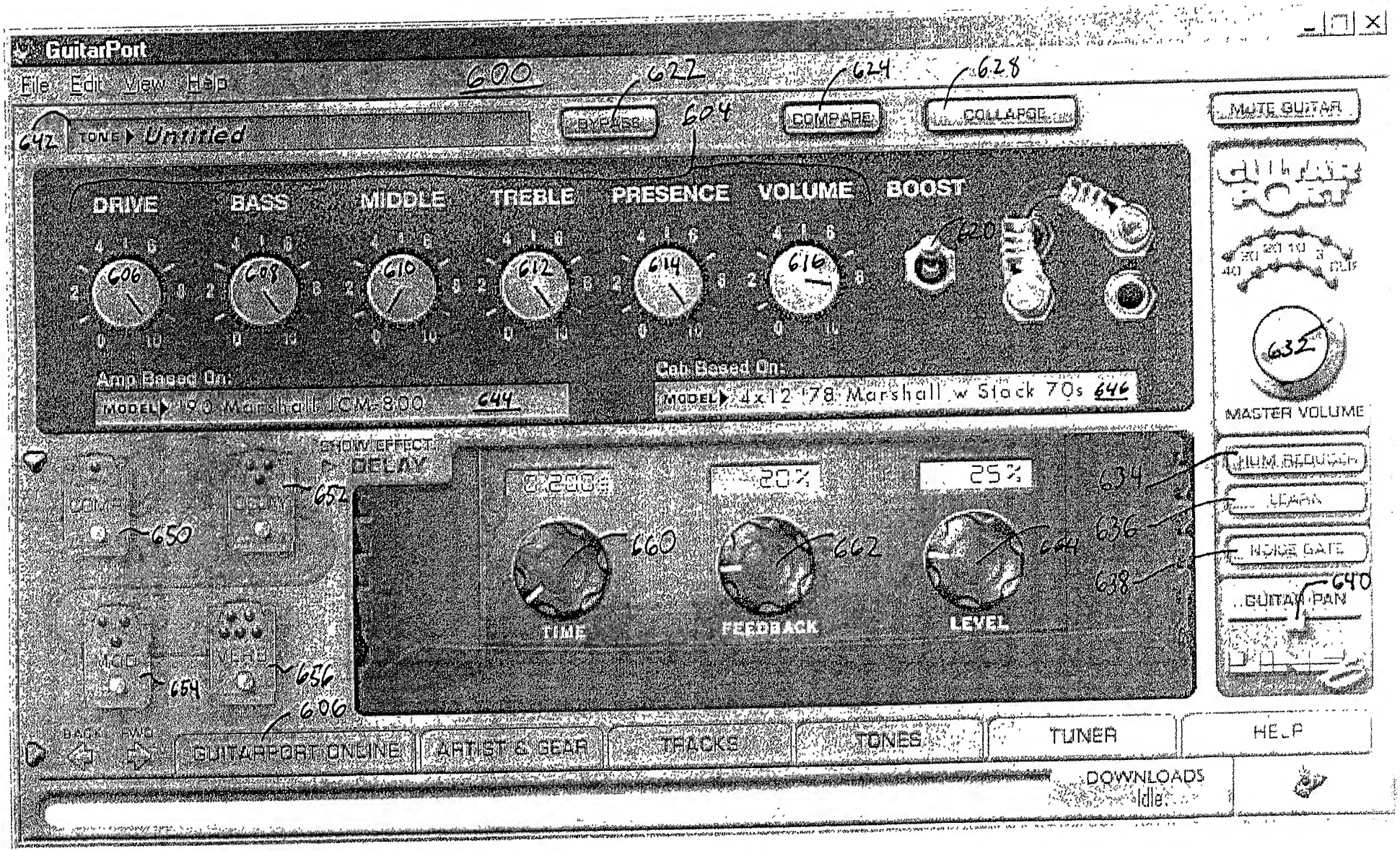


Figure 6a

GuitarPort
File Edit View Help
600
TONE: Untitled
BYPASS
COMPARE
RELEASE
MULTI-GUITAR
DRIVE
BASS
MIDDLE
TREBLE
PRESENCE
VOLUME
BOOST
Amp Based On:
MODEL: '90 Marshall JCM-800
Cab Based On:
MODEL: 4x12 '78 Marshall w Stock 70s
GUITAR PORT
CLIP
MASTER VOLUME
TUNER
LOOPER
LINE 6
SHOW EFFECT:
COMP
RATIO
WAVE COMPRESSION
692
693
606
687
698
689
690
691
GUITARPORT ONLINE
ARTIST & GEAR
TRACKS
TONES
TUNER
HELP
671
672
673
674
675
676
670
GuitarPort Online
HOME
FEATURES
NEWS
DISCUSSION
USERS
GUITAR TOOLS
STUDIO NOTES
68
studio notes w/ tim pierce
69
robben ford
interview
70
MORE
MORE
684
NEWEST JAMTRACKS
Ain't Nothin' But A Hot Time
Back in Black
Hit This Way
Helter Skelter
Johnny B. Goode
Sunshine of Your Love
Highway Star
Sultans of Swing
Livin' on the Fast Lane
Welcome to the Jungle
685
TOP 10 TONES
Hells Bells Rhythm
'64 Fender Wide Panel Dlx...
'59 Fender Bassman
Heavy Funk Rock Lead
'64 Fender Deluxe
'67 Vox AC30 with Fab Dlx...
'68 Marshall Plexi Super...
'67 Roland JC-120
Back to Black Rhythm
'90 Marshall JCM-800
DOWNLOADS
Idle
TODAY'S NEWS
671
U2: The Boys Are Back In Town
Over 80,000 fans gathered at Slane Castle for U2's first Dublin gig since 1997. Read the whole story here...
CHORD OF THE WEEK
678
A7b5 - A Jazz Favorite
Dig some of the fine D places it likes to move to...
Click here to learn!
More Chords
LICK OF THE WEEK
679
Cascading Single-Note Runs
Lick of the Week
Check out this Jerry Reed-influenced phrase.

Figure 6b

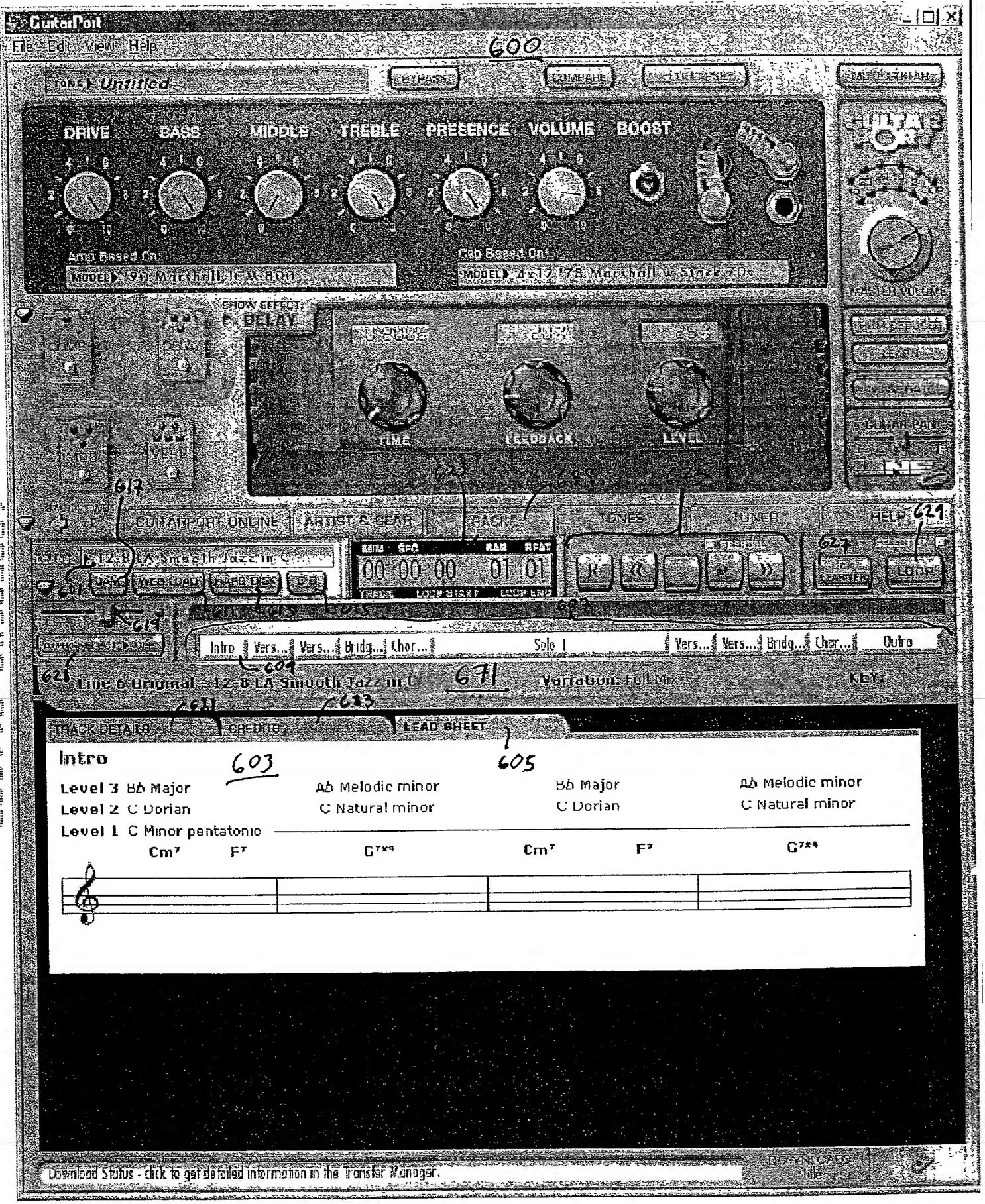

GuitarPort
File Edit View Help
600
Untitled
BYPASS
COMPARE
MULTI-GUITAR
DRIVE
BASS
MIDDLE
TREBLE
PRESENCE
VOLUME
BOOST
Amp Based On:
MODEL 90 Marshall JCM 800
Cab Based On:
MODEL 4x12 '78 Marshall w Stock 70s
MASTER VOLUME
SHOW EFFECT
DELAY
TIME
FEEDBACK
LEVEL
617
623
629
625
GUITARPORT ONLINE
ARTIST & GEAR
TONES
TUNER
HELP
621
12-8 LA Smooth Jazz in C
JAM
WEB LOAD
HARD DISK
CD
627
REWIND
LOOP
619
Intro
Vers...
Vers...
Bridg...
Char...
Solo 1
Vers...
Vers...
Bridg...
Char...
Outro
609
Line 6 Original - 12-8 LA Smooth Jazz in C
671
VariaGon: Full Mix
KEY:
631
633
TRACK DETAILS
CREDITS
LEAD SHEET
Intro
603
605
Level 3 B♭ Major
A♭ Melodic minor
B♭ Major
A♭ Melodic minor
Level 2 C Dorian
C Natural minor
C Dorian
C Natural minor
Level 1 C Minor pentatonic
Cm7
F7
G7#9
Cm7
F7
G7#9
Download Status - click to get detailed information in the Transfer Manager.
DOWNLOADS
Idle

Figure 6C

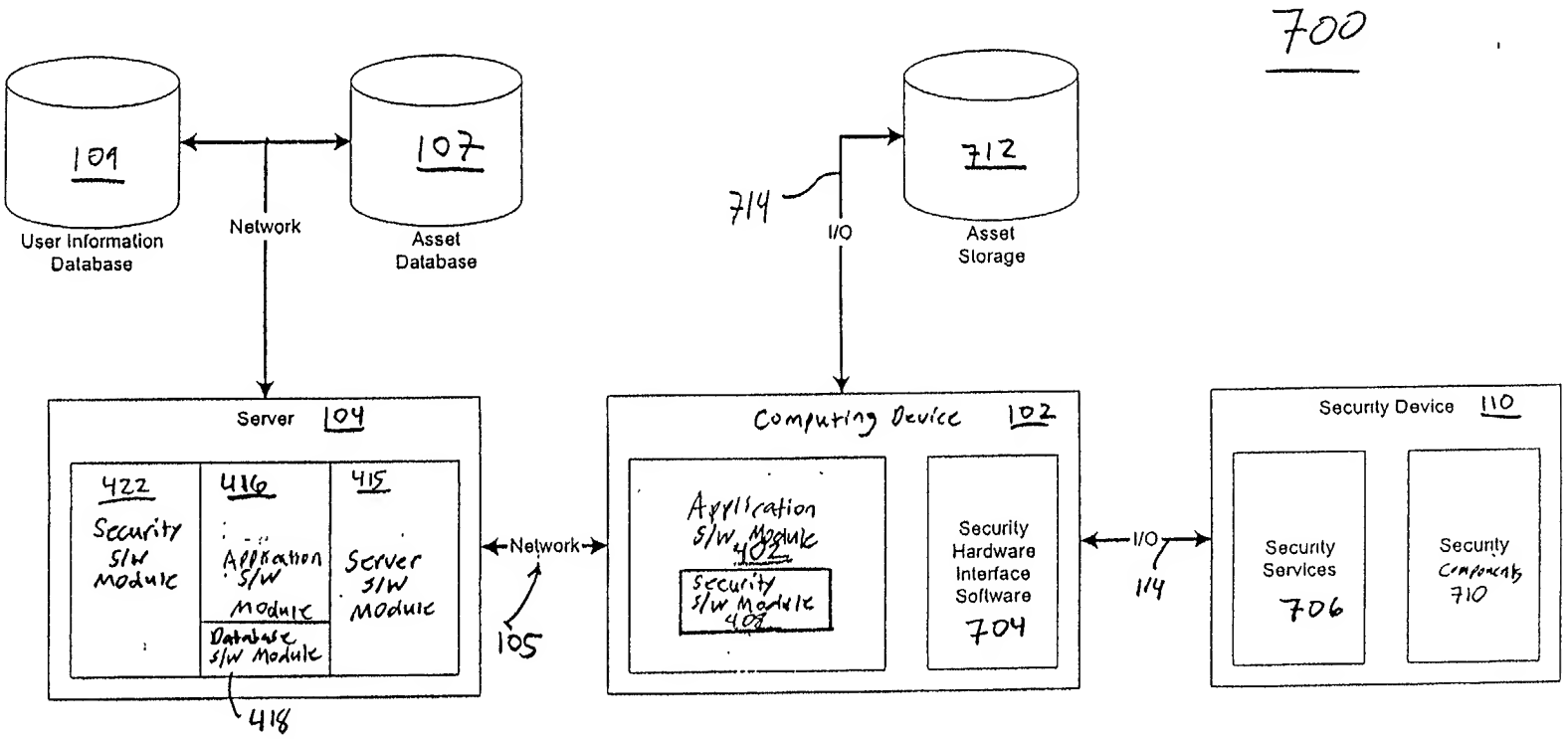

700
109
User Information Database
Network
107
Asset Database
714
I/O
712
Asset Storage
Server 104
422
Security s/w Module
416
Application s/w Module
Database s/w Module
418
415
Server s/w Module
Network
105
Computing Device 102
Application s/w Module 402
Security s/w Module 408
Security Hardware Interface Software 704
I/O
114
Security Device 110
Security Services 706
Security Components 710

Figure 7a

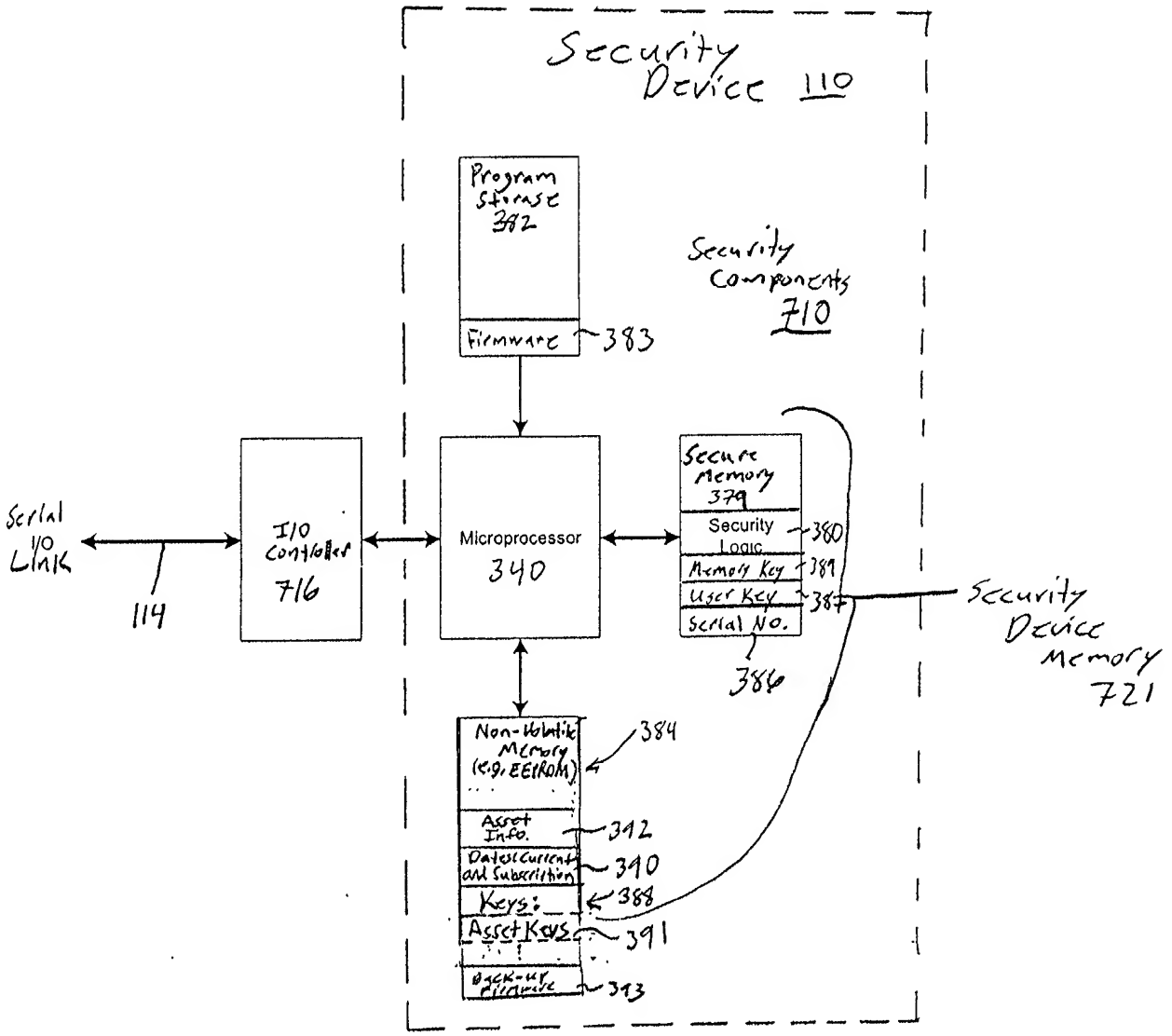

Security Device 110
Program Storage 382
Firmware 383
Security Components 710
Serial I/O Link
114
I/O Controller 716
Microprocessor 340
Secure Memory 379
Security Logic 380
Memory Key 389
User Key 387
Serial No. 386
Security Device Memory 721
Non-Volatile Memory (e.g. EEPROM) 384
Asset Info. 312
Dates/Current and Subscription 310
Keys: 388
Asset Keys 391
Back-up Firmware 313

Figure 7b

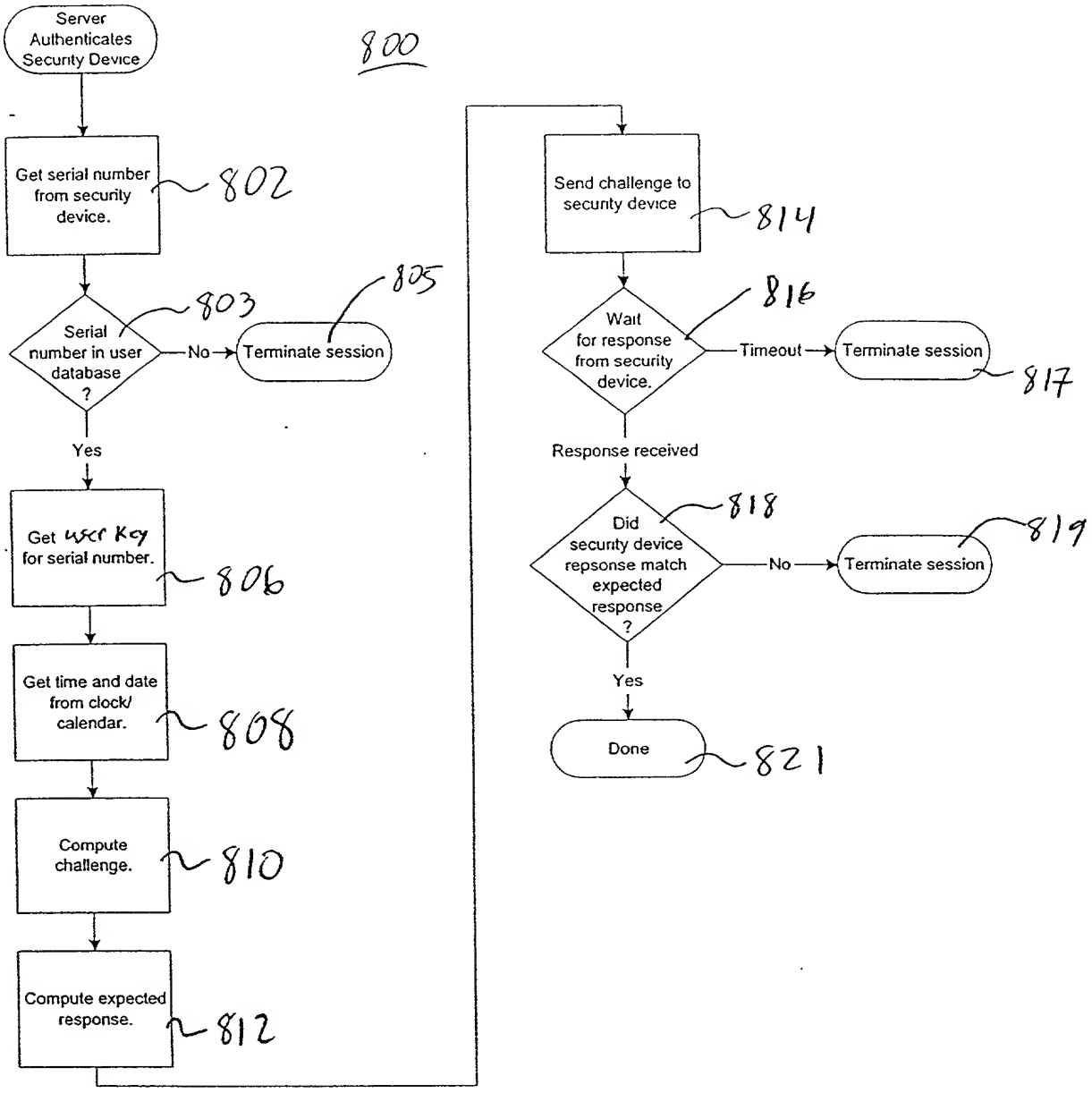

Server Authenticates Security Device
800
Get serial number from security device.
802
Serial number in user database ?
803
No
Terminate session
805
Yes
Get user Key for serial number.
806
Get time and date from clock/ calendar.
808
Compute challenge.
810
Compute expected response.
812
Send challenge to security device
814
Wait for response from security device.
816
Timeout
Terminate session
817
Response received
Did security device repsonse match expected response ?
818
No
Terminate session
819
Yes
Done
821

Figure 8a

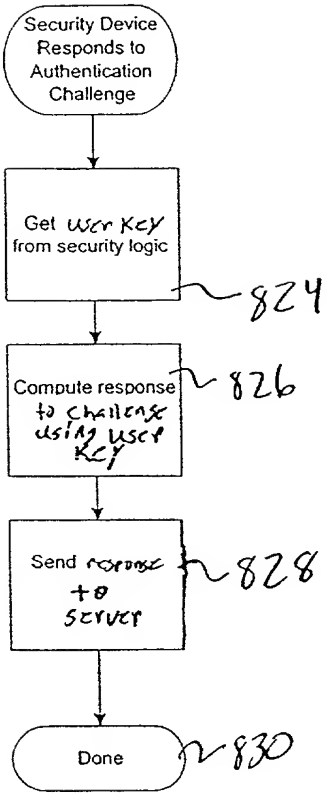

Security Device Responds to Authentication Challenge
822
Get User Key from security logic
824
Compute response to challenge using User Key
826
Send response to server
828
Done
830

Figure 8b

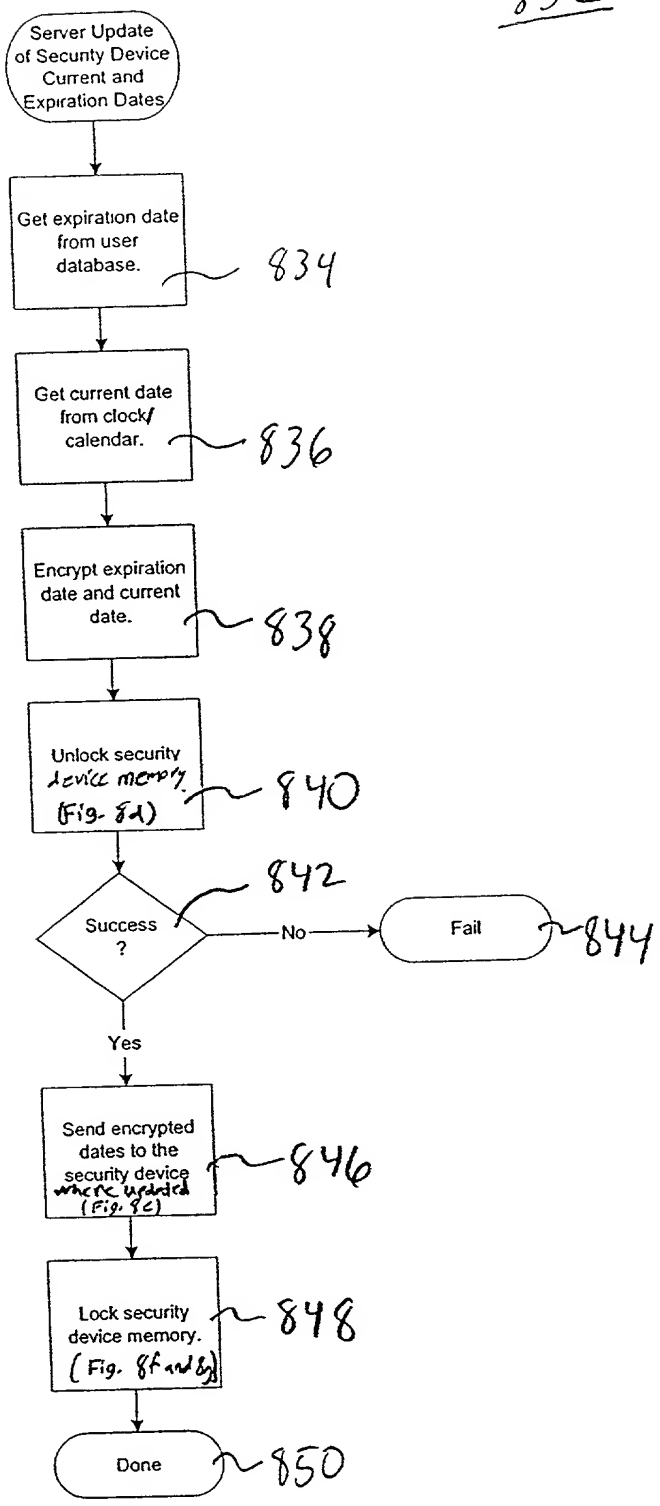

832
Server Update of Security Device Current and Expiration Dates
Get expiration date from user database.
834
Get current date from clock/ calendar.
836
Encrypt expiration date and current date.
838
Unlock security device memory. (Fig. 8d)
840
842
Success ?
No
Fail
844
Yes
Send encrypted dates to the security device where updated (Fig. 8e)
846
Lock security device memory. (Fig. 8f and 8g)
848
Done
850

Figure 8c

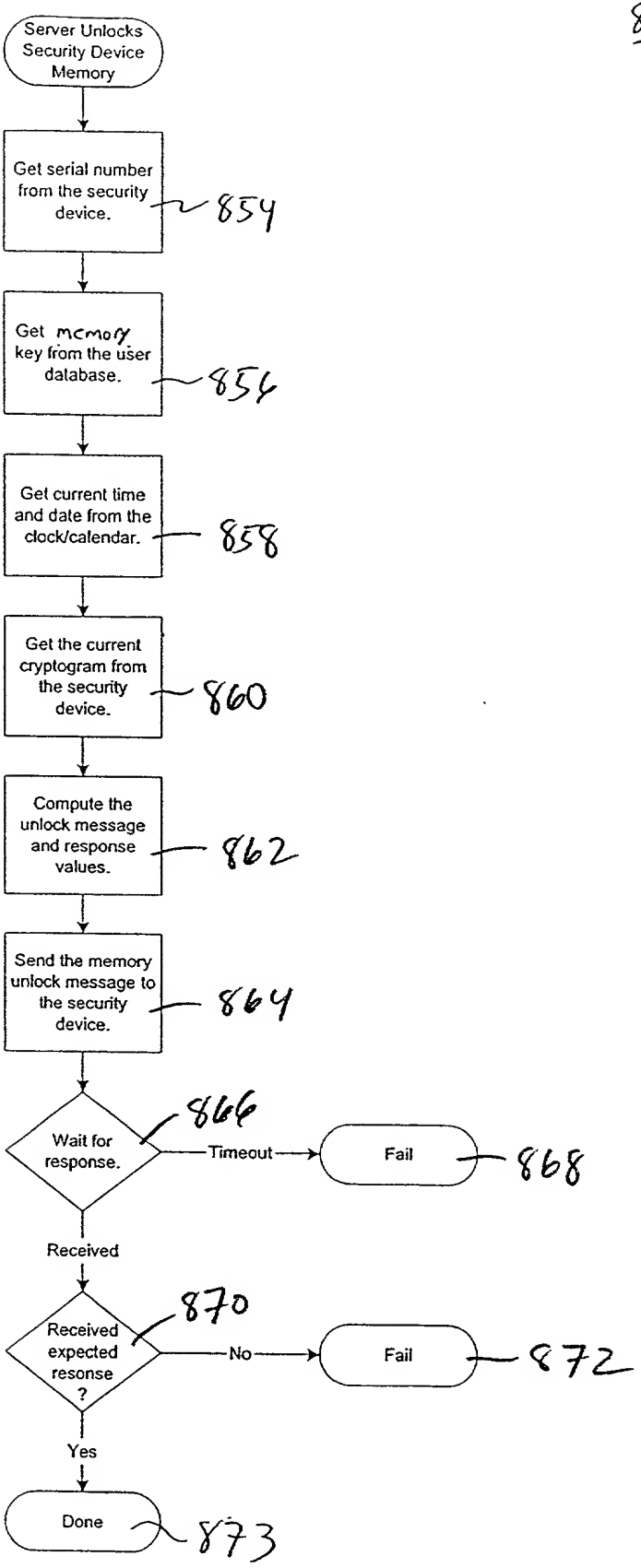

852
Server Unlocks Security Device Memory
Get serial number from the security device.
854
Get memory key from the user database.
856
Get current time and date from the clock/calendar.
858
Get the current cryptogram from the security device.
860
Compute the unlock message and response values.
862
Send the memory unlock message to the security device.
864
866
Wait for response.
Timeout
Fail
868
Received
870
Received expected resonse ?
No
Fail
872
Yes
Done
873

Figure 8d

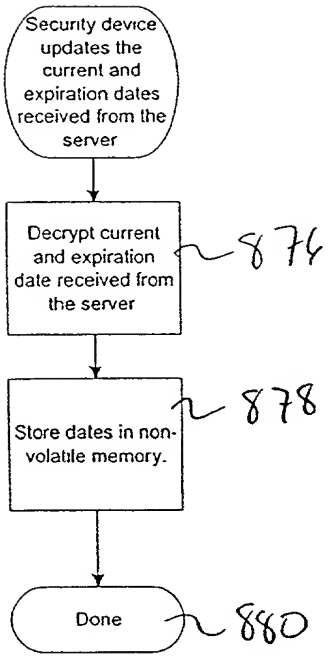

Security device updates the current and expiration dates received from the server
Decrypt current and expiration date received from the server
874
Store dates in non-volatile memory.
878
Done
880

Figure 8c

882

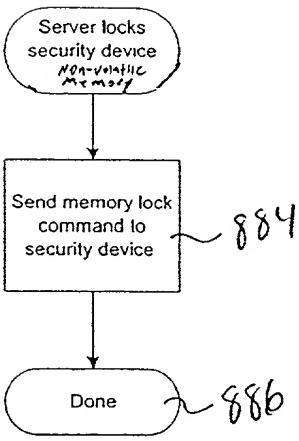


Figure 8f

888

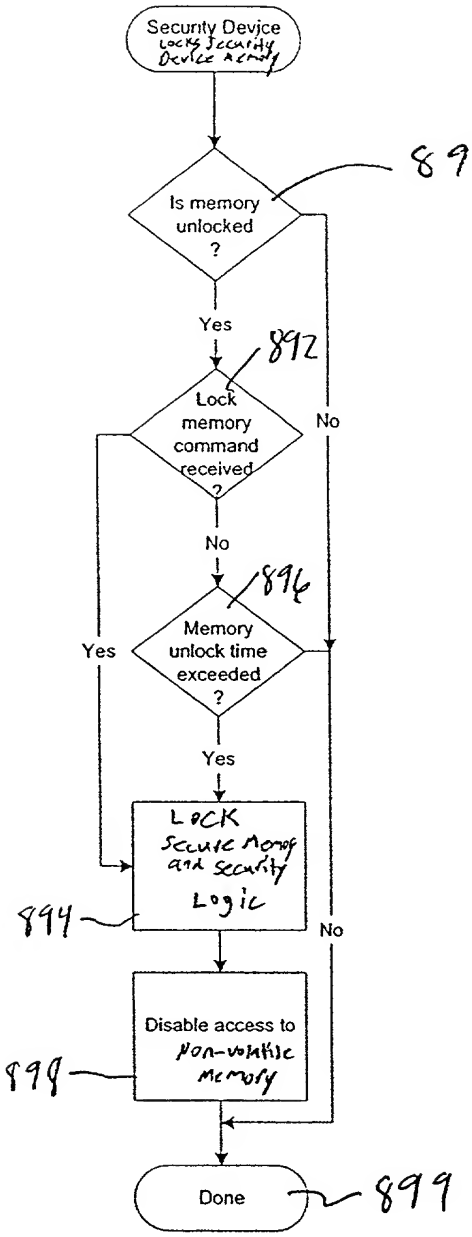


Figure 8s

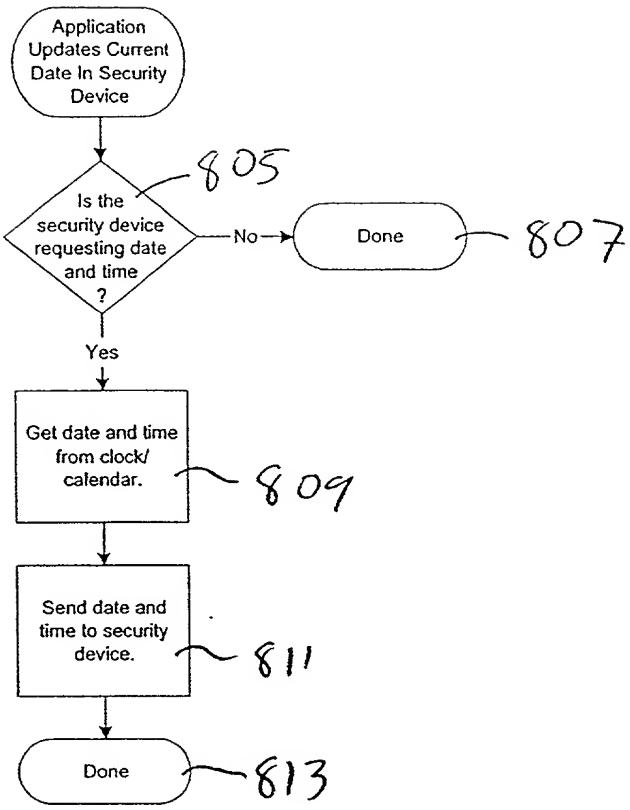

801
Application Updates Current Date In Security Device
805
Is the security device requesting date and time ?
No
Done
807
Yes
Get date and time from clock/ calendar.
809
Send date and time to security device.
811
Done
813

Figure 8h

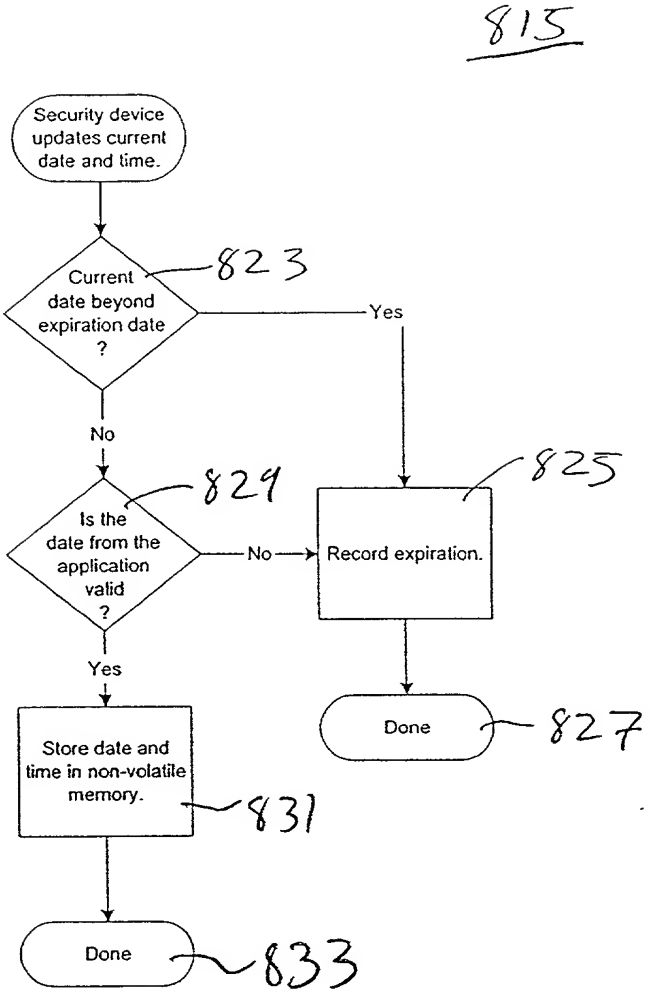

815
Security device updates current date and time.
Current date beyond expiration date ?
823
Yes
No
Is the date from the application valid ?
829
No
Record expiration.
825
Yes
Done
827
Store date and time in non-volatile memory.
831
Done
833

Figure 8i

CONFIDENTIAL

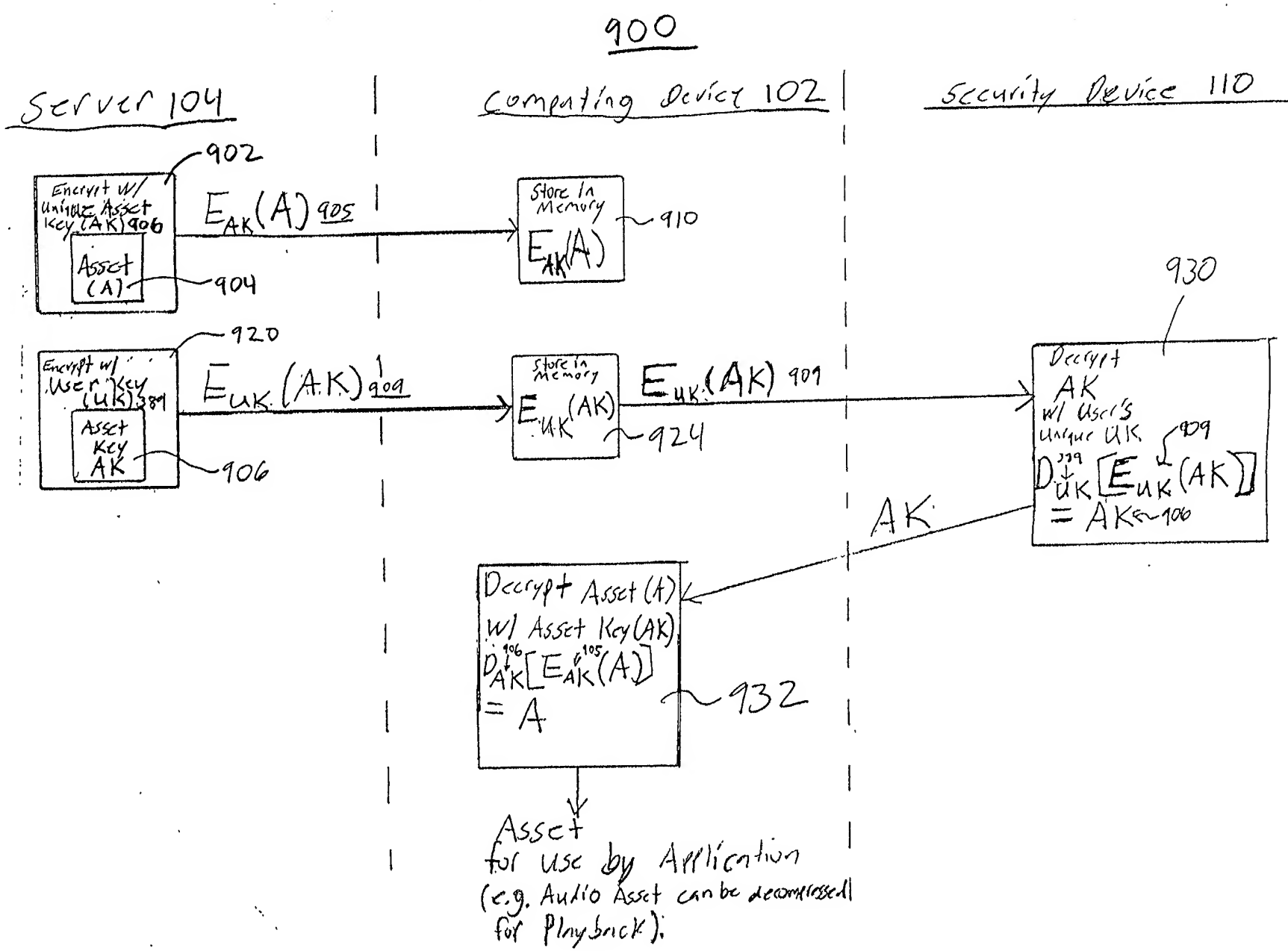


Figure 9

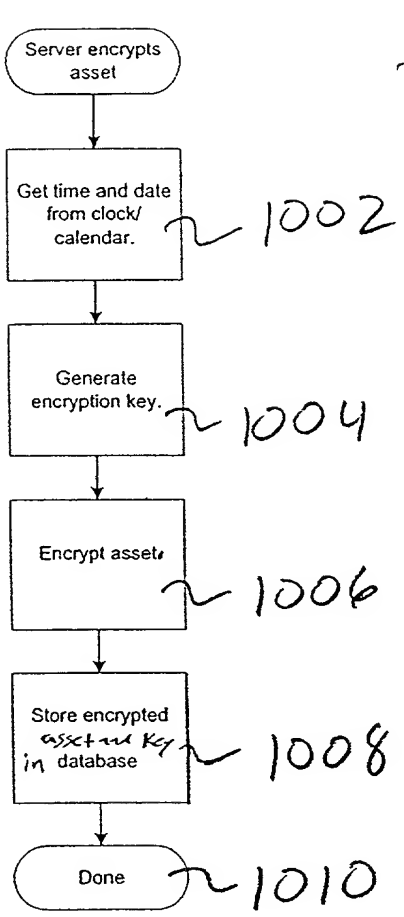

1000
Server encrypts asset
Get time and date from clock/ calendar.
1002
Generate encryption key.
1004
Encrypt asset.
1006
Store encrypted asset and Key in database
1008
Done
1010

Figure 10a

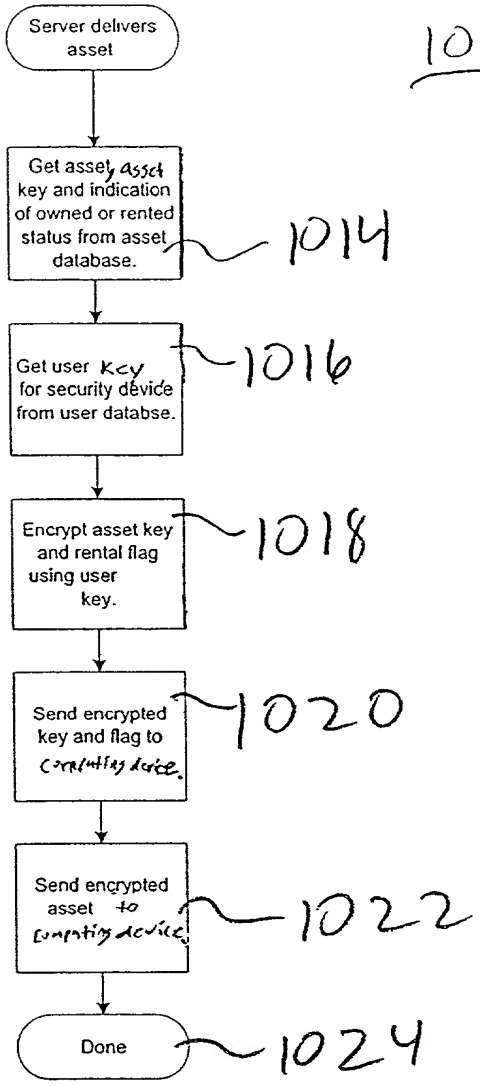

Server delivers asset
1012
Get asset asset key and indication of owned or rented status from asset database.
1014
Get user key for security device from user databse.
1016
Encrypt asset key and rental flag using user key.
1018
Send encrypted key and flag to computing device.
1020
Send encrypted asset to computing device.
1022
Done
1024

Figure 10b

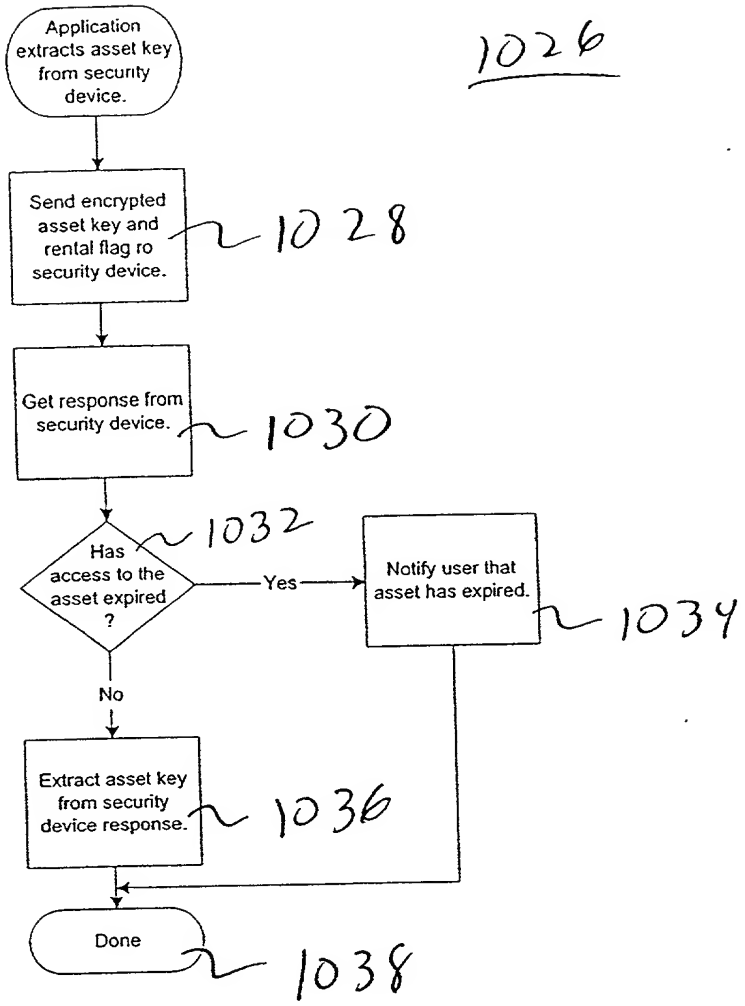

Application extracts asset key from security device.
1026
Send encrypted asset key and rental flag ro security device.
1028
Get response from security device.
1030
Has access to the asset expired ?
1032
Yes
Notify user that asset has expired.
1034
No
Extract asset key from security device response.
1036
Done
1038

Figure 10c

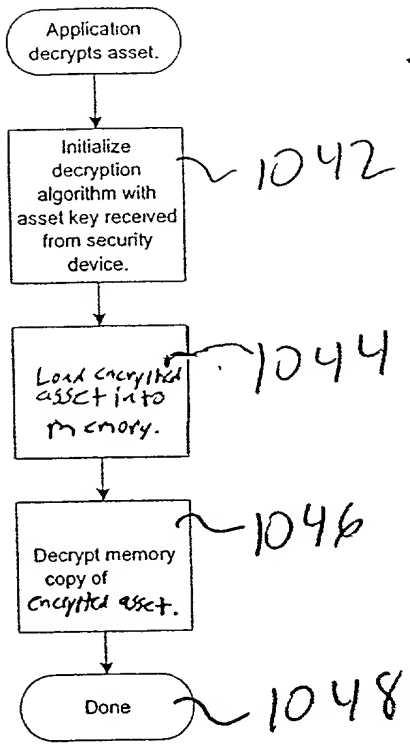

1040
Application decrypts asset.
Initialize decryption algorithm with asset key received from security device.
1042
Load encrypted asset into memory.
1044
Decrypt memory copy of encrypted asset.
1046
Done
1048

Figure 10d

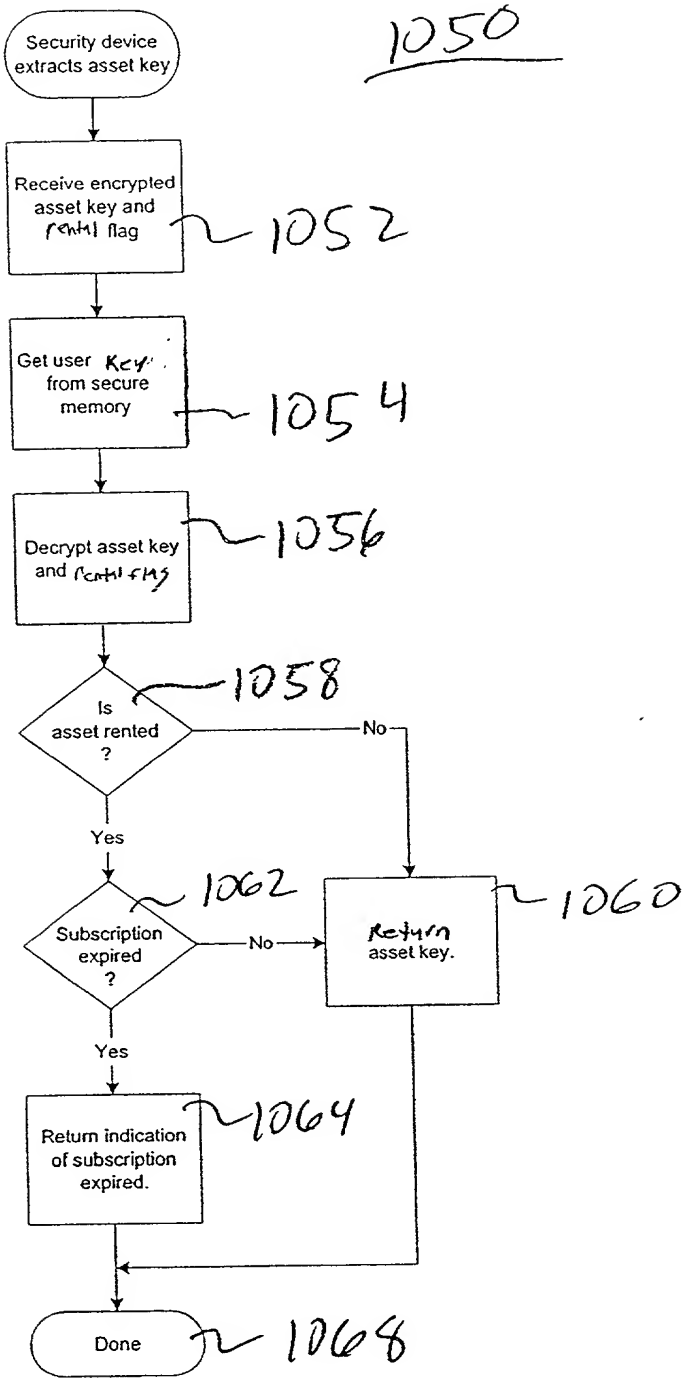

1050
Security device extracts asset key
Receive encrypted asset key and rental flag
1052
Get user Key from secure memory
1054
Decrypt asset key and rental flag
1056
Is asset rented ?
1058
No
Yes
Subscription expired ?
1062
No
Return asset key.
1060
Yes
Return indication of subscription expired.
1064
Done
1068

Figure 10c

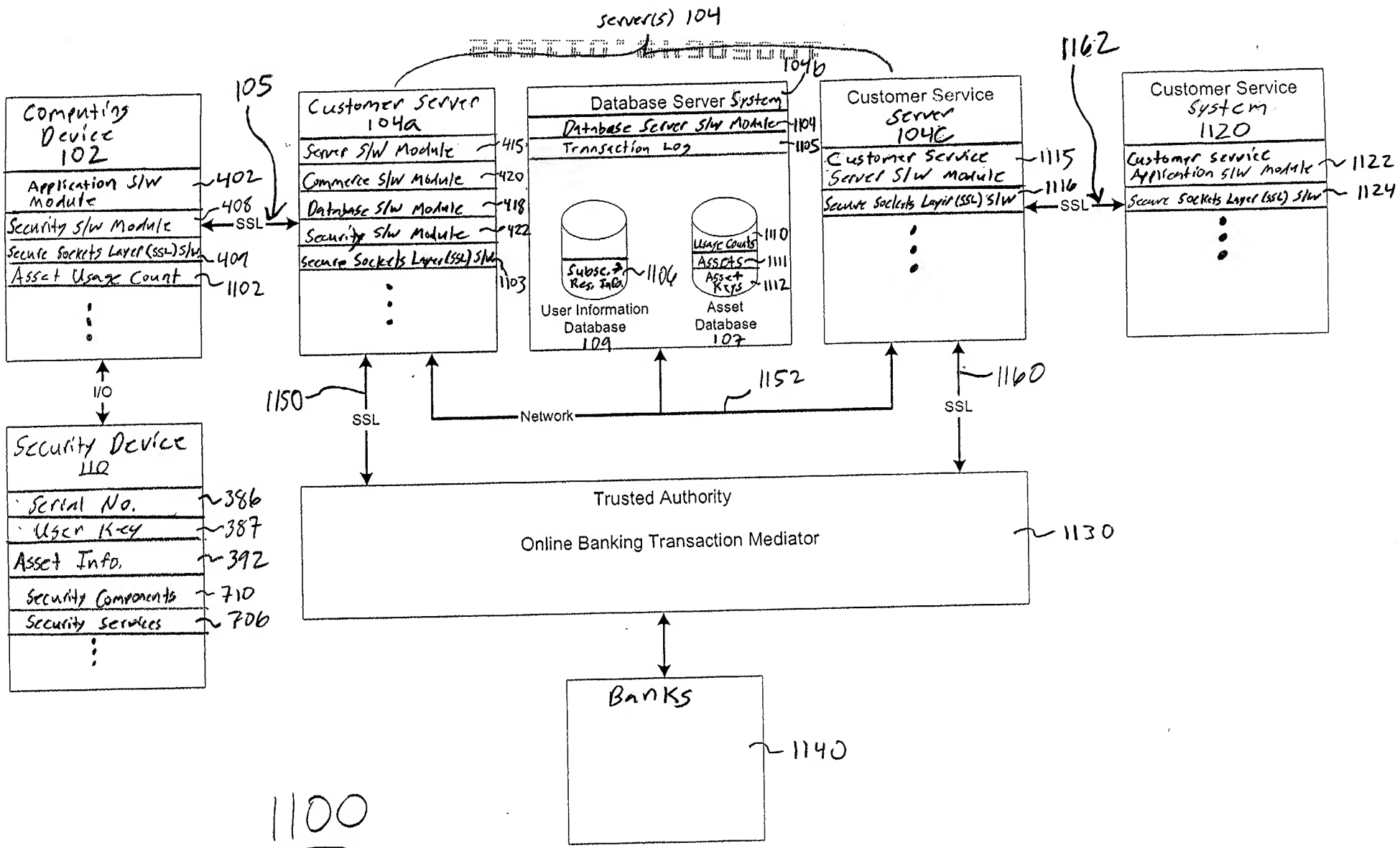

server(s) 104
1046
105
1162
Computing Device 102
Application S/W Module 402
Security S/W Module 408
SSL
Secure Sockets Layer (SSL) S/W 409
Asset Usage Count 1102
I/O
Security Device 110
Serial No. 386
User Key 387
Asset Info. 392
Security Components 710
Security Services 706
Customer Server 104a
Server S/W Module 415
Commerce S/W Module 420
Database S/W Module 418
Security S/W Module 422
Secure Sockets Layer (SSL) S/W 1103
Database Server System
Database Server S/W Module 1104
Transaction Log 1105
Subsc. Reg. Info 1106
User Information Database 109
Usage Counts 1110
Assets 1111
Asset Keys 1112
Asset Database 107
Customer Service Server 104c
Customer Service Server S/W Module 1115
Secure Sockets Layer (SSL) S/W 1116
SSL
Customer Service System 1120
Customer Service Application S/W Module 1122
Secure Sockets Layer (SSL) S/W 1124
1150
SSL
Network
1152
1160
SSL
Trusted Authority
Online Banking Transaction Mediator
1130
Banks
1140
1100

Figure 11

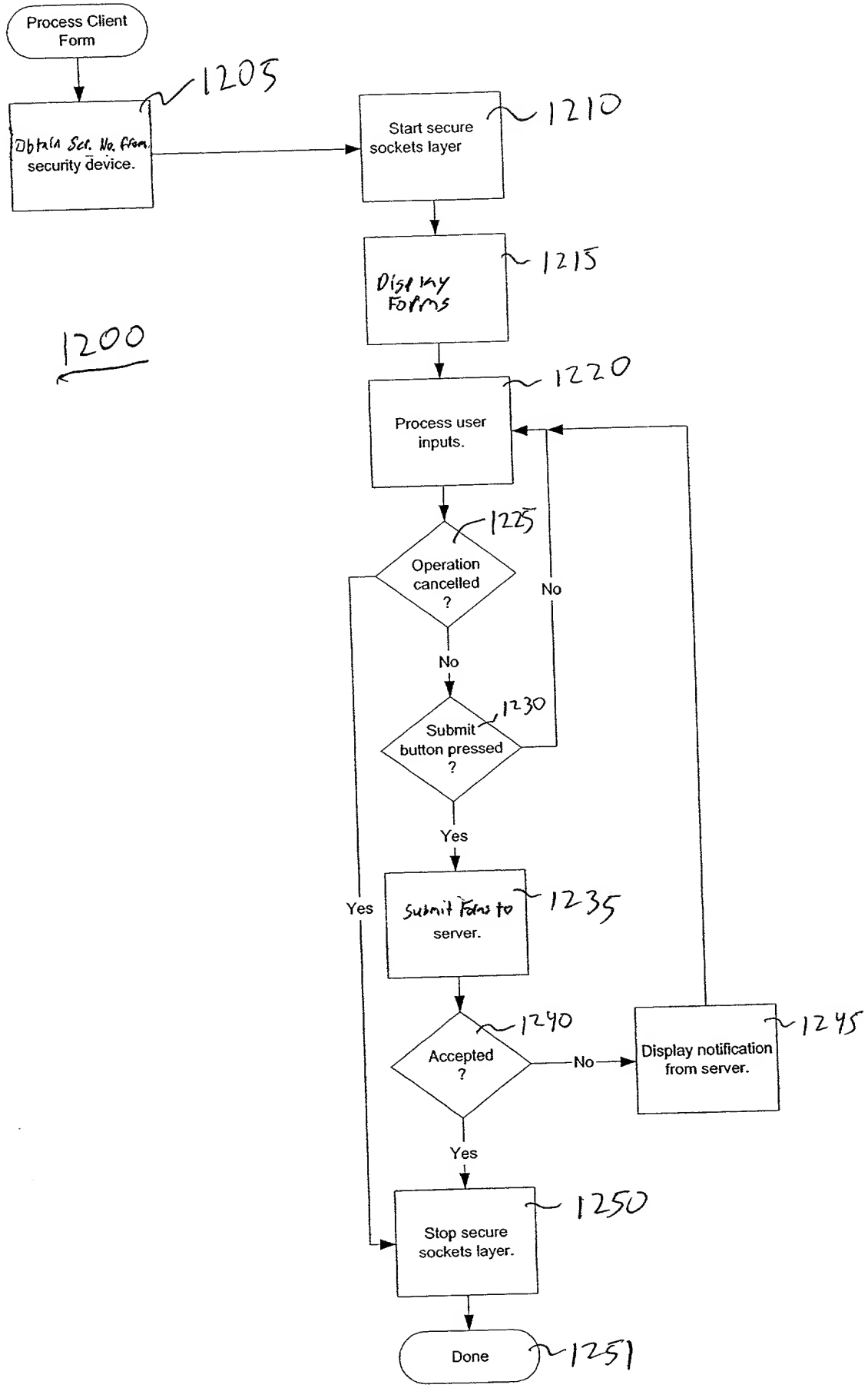

Process Client Form
1205
Obtain Sec. No. From security device.
1210
Start secure sockets layer
1215
Display Forms
1200
1220
Process user inputs.
1225
Operation cancelled ?
No
No
1230
Submit button pressed ?
Yes
Yes
1235
Submit Forms to server.
1240
Accepted ?
No
1245
Display notification from server.
Yes
1250
Stop secure sockets layer.
Done
1251

Figure 12g

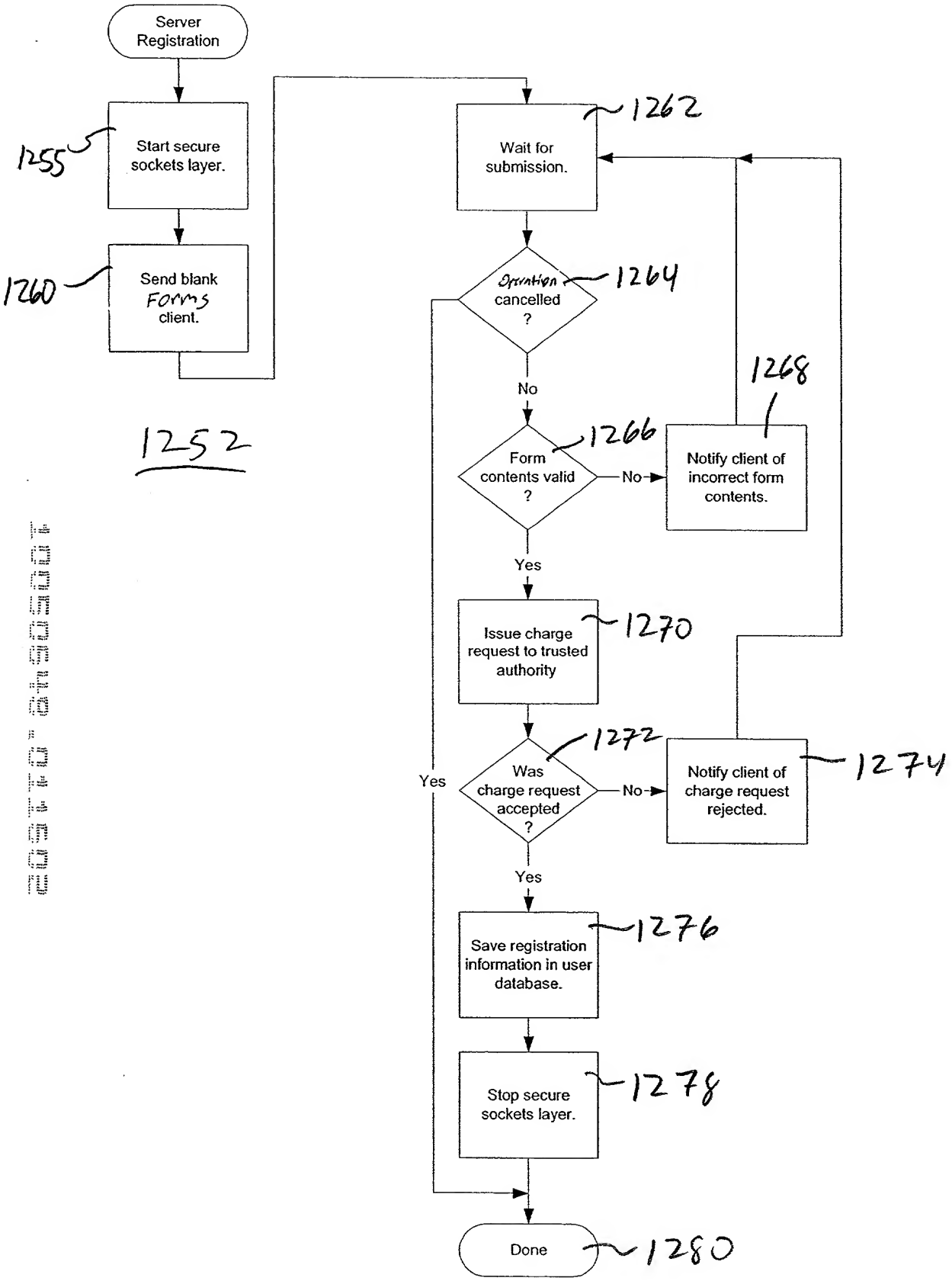
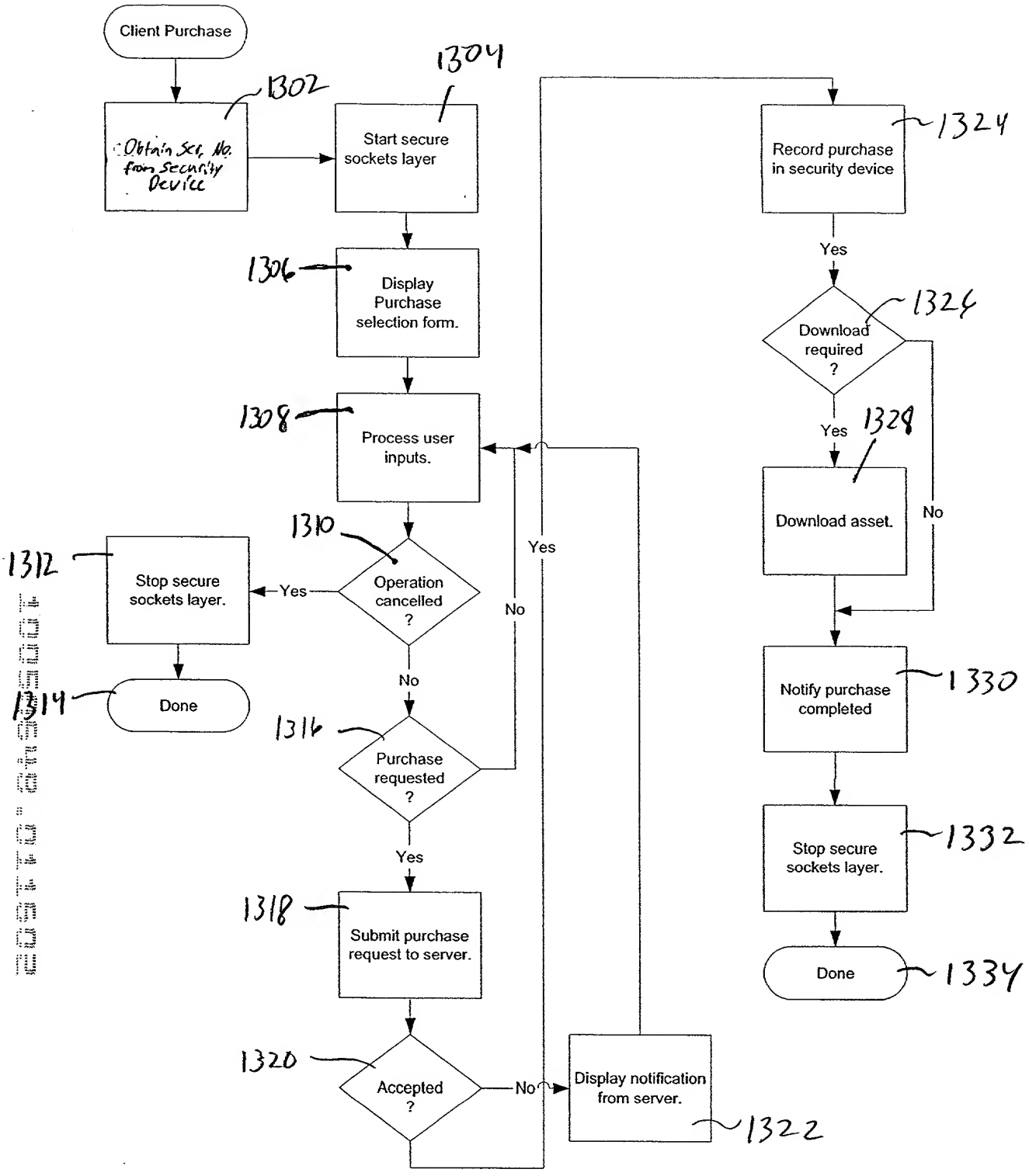
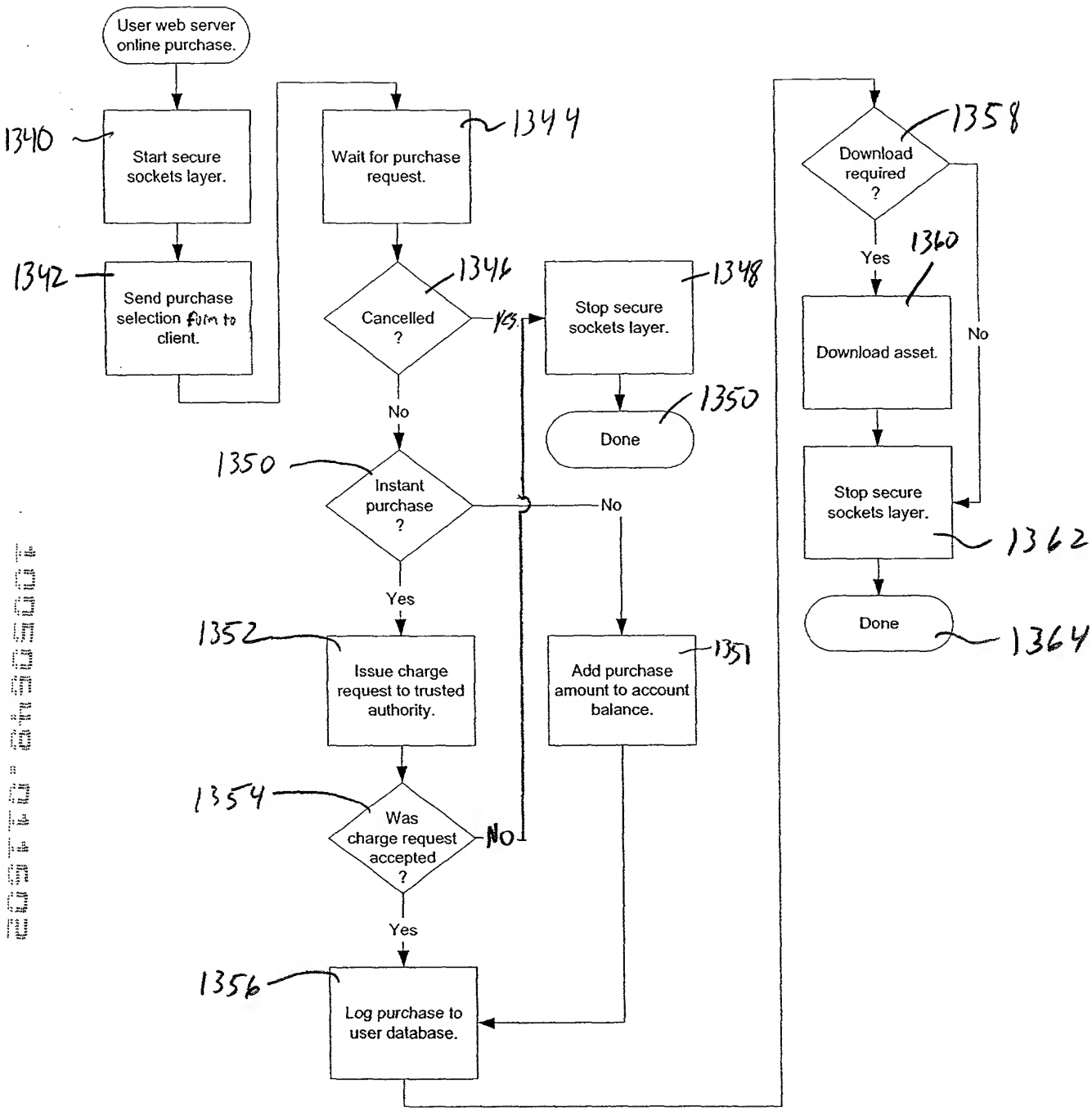

Server Registration
1255
Start secure sockets layer.
1260
Send blank Forms client.
1252
1262
Wait for submission.
1264
Operation cancelled ?
No
1266
Form contents valid ?
No
1268
Notify client of incorrect form contents.
Yes
1270
Issue charge request to trusted authority
1272
Was charge request accepted ?
No
1274
Notify client of charge request rejected.
Yes
Yes
1276
Save registration information in user database.
1278
Stop secure sockets layer.
Done
1280

Figure 12b



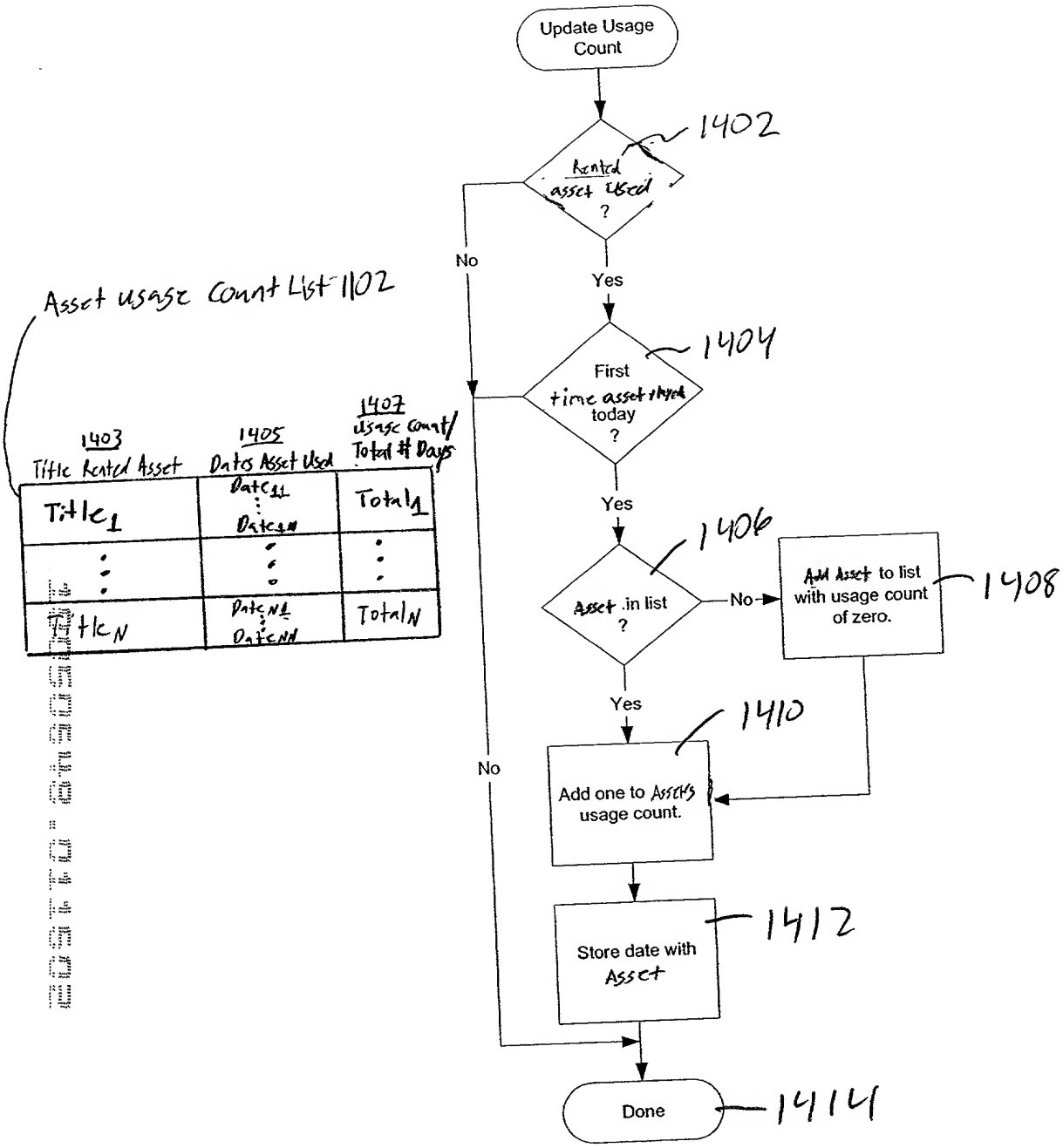
1300

Figure 13a



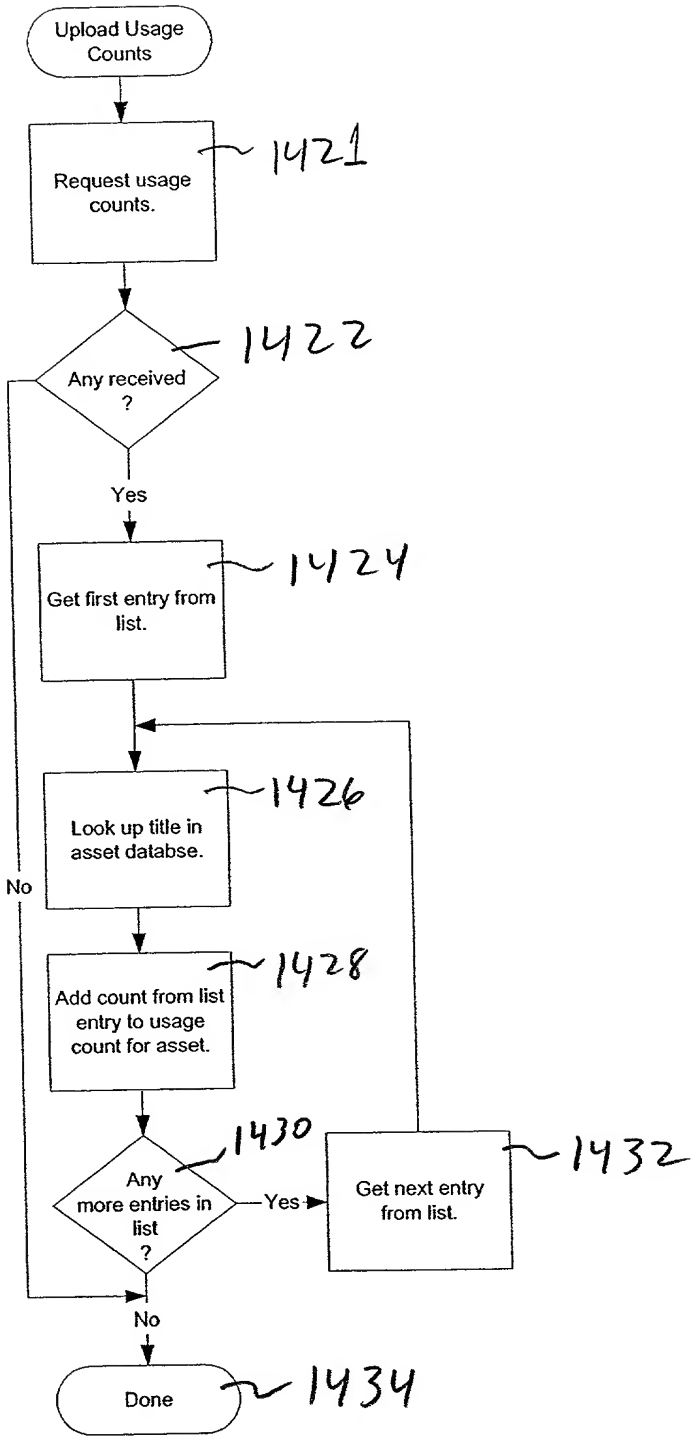
1336

Figure 13b



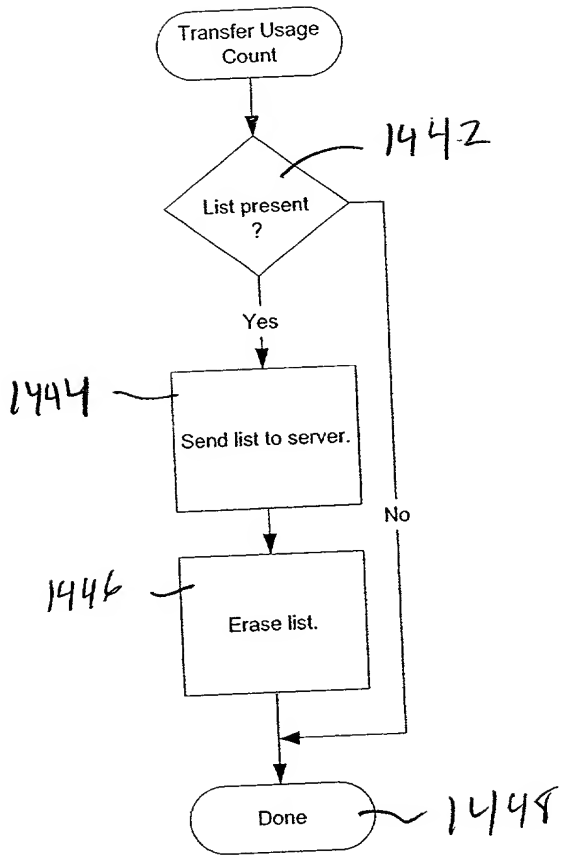
1400

Figure 14a



1420

Figure 14b



1440

Figure 14c

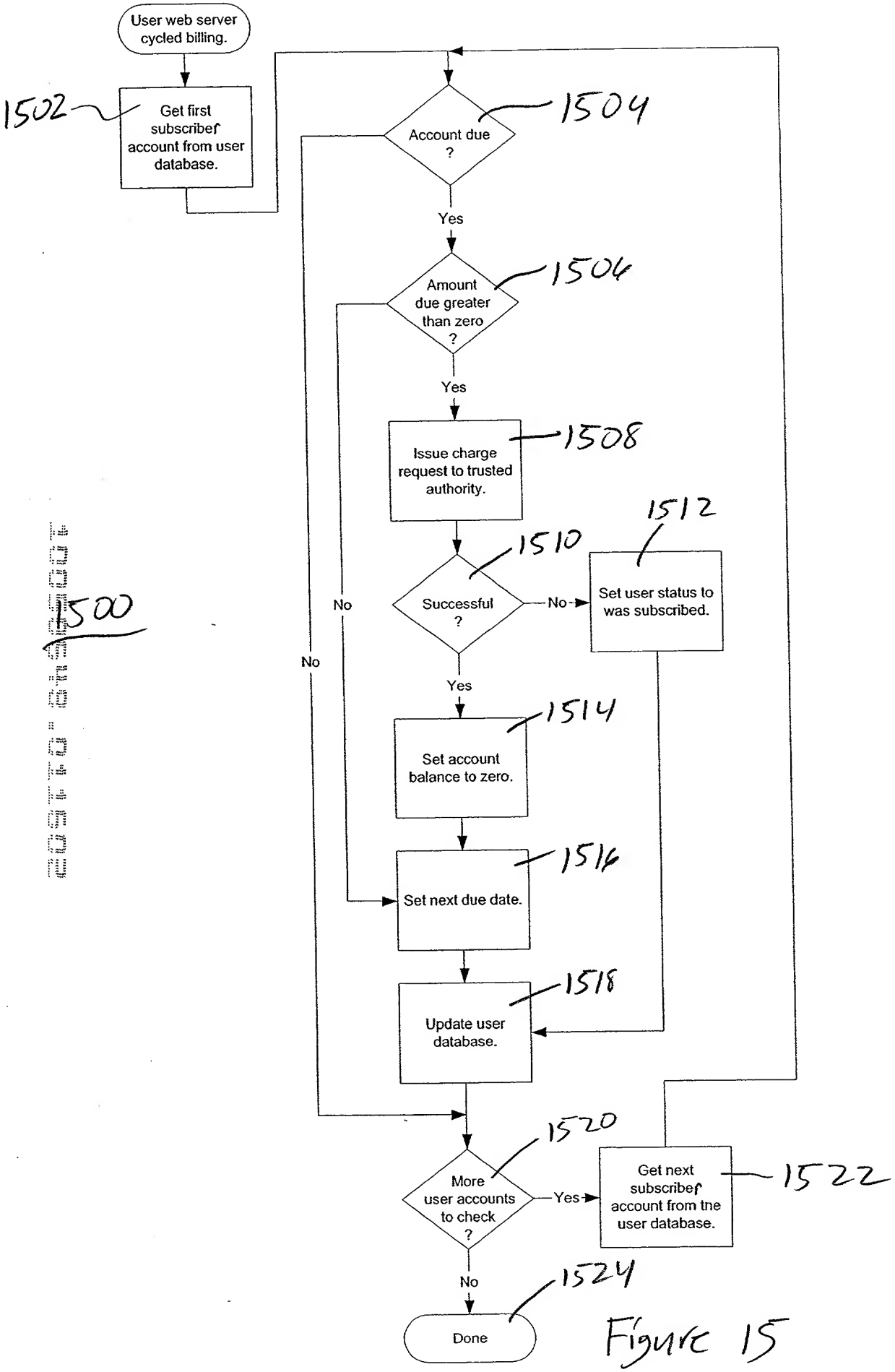

User web server cycled billing.
1502
Get first subscriber account from user database.
Account due ?
1504
Yes
Amount due greater than zero ?
1506
Yes
Issue charge request to trusted authority.
1508
Successful ?
1510
No
Set user status to was subscribed.
1512
No
No
Yes
Set account balance to zero.
1514
Set next due date.
1516
Update user database.
1518
More user accounts to check ?
1520
Yes
Get next subscriber account from the user database.
1522
No
Done
1524
1500

Figure 15

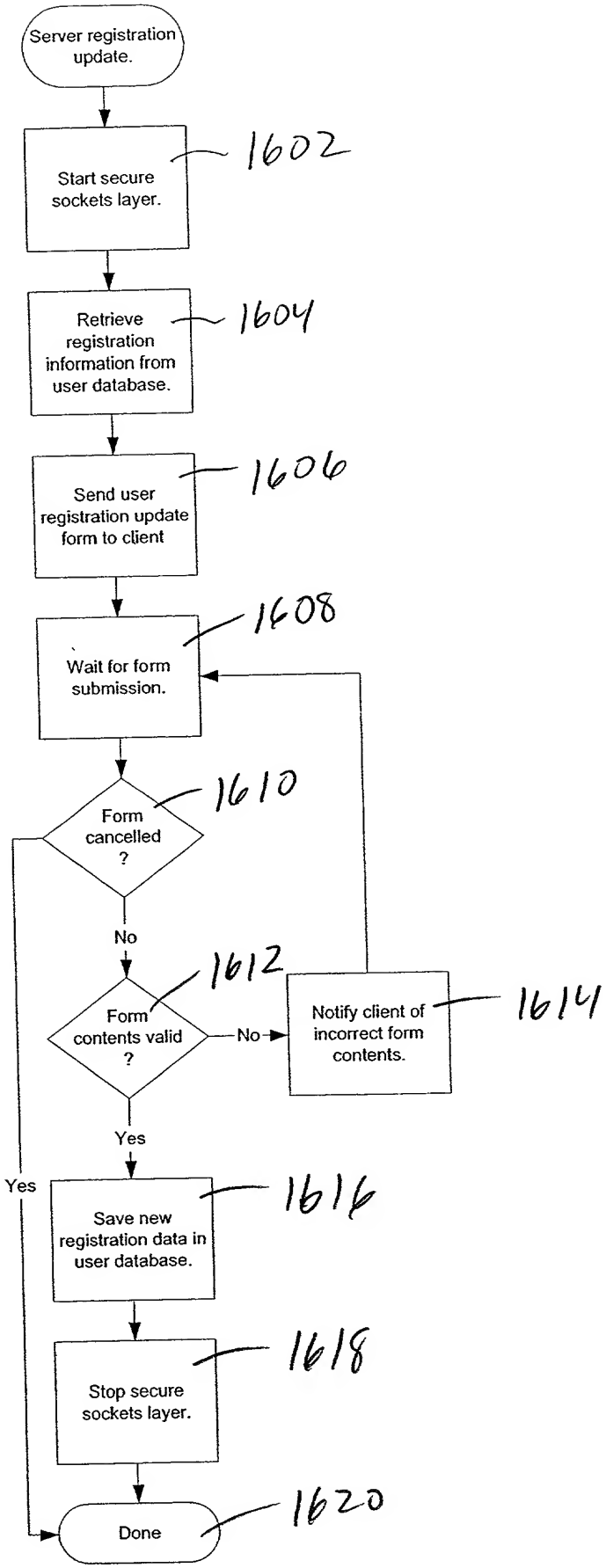

1600
Server registration update.
Start secure sockets layer.
1602
Retrieve registration information from user database.
1604
Send user registration update form to client
1606
Wait for form submission.
1608
Form cancelled ?
1610
No
Form contents valid ?
1612
No
Notify client of incorrect form contents.
1614
Yes
Yes
Save new registration data in user database.
1616
Stop secure sockets layer.
1618
Done
1620

Figure 16

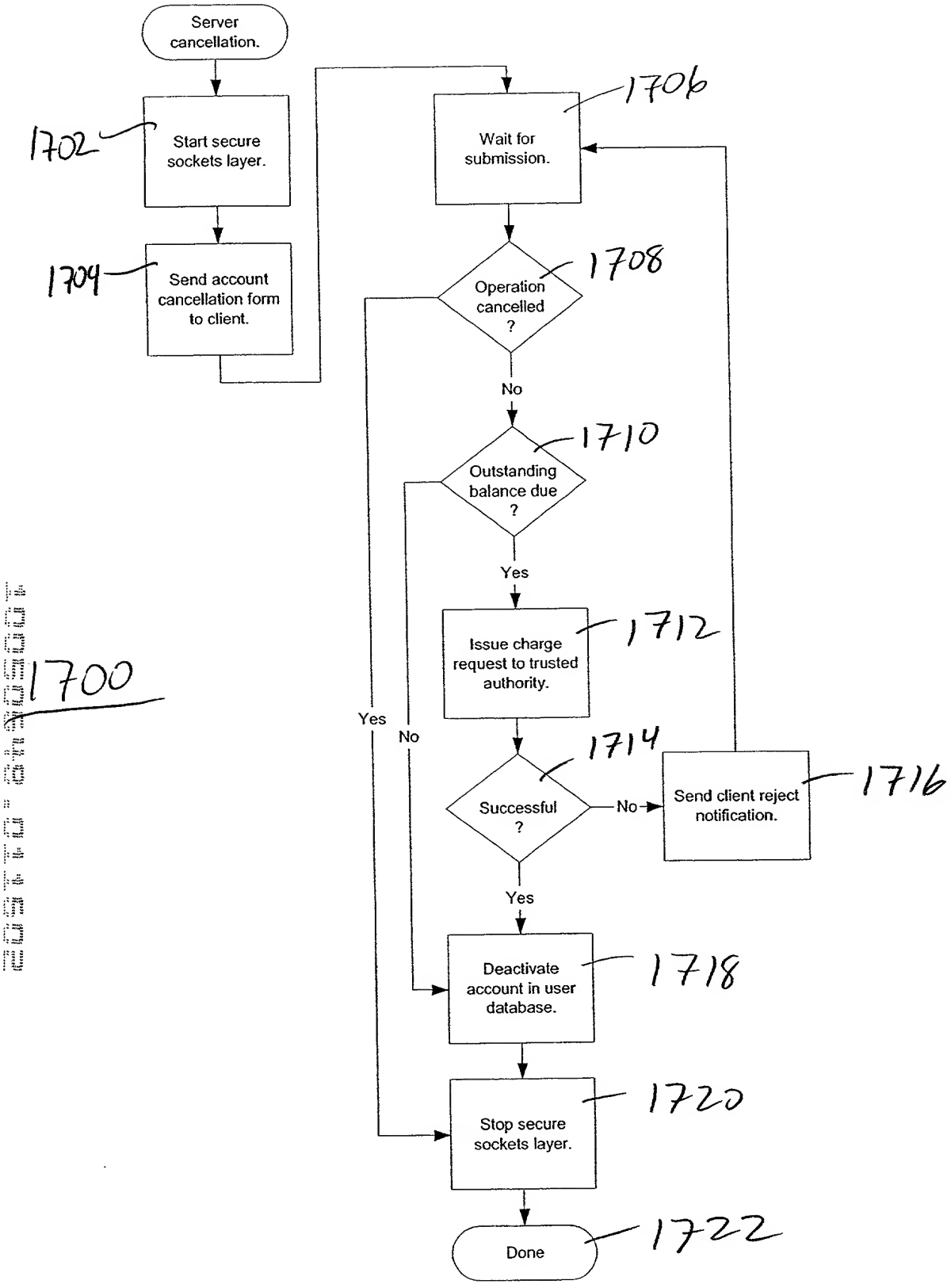
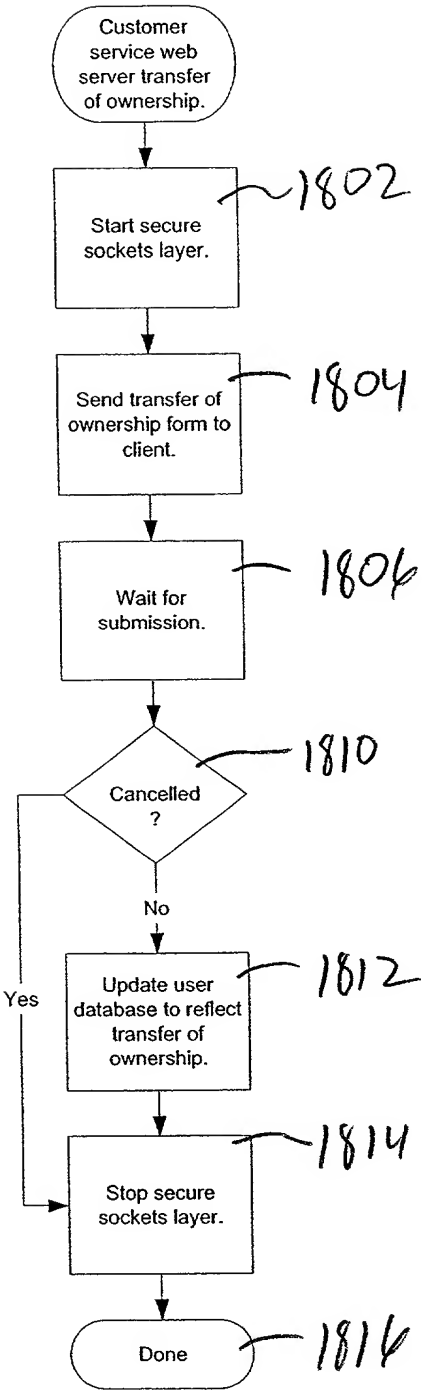

Server cancellation.
1702
Start secure sockets layer.
1704
Send account cancellation form to client.
1706
Wait for submission.
1708
Operation cancelled ?
No
1710
Outstanding balance due ?
Yes
1712
Issue charge request to trusted authority.
Yes
No
1714
Successful ?
No
1716
Send client reject notification.
Yes
1718
Deactivate account in user database.
1720
Stop secure sockets layer.
1722
Done
1700

Figure 17



1800

Figure 18

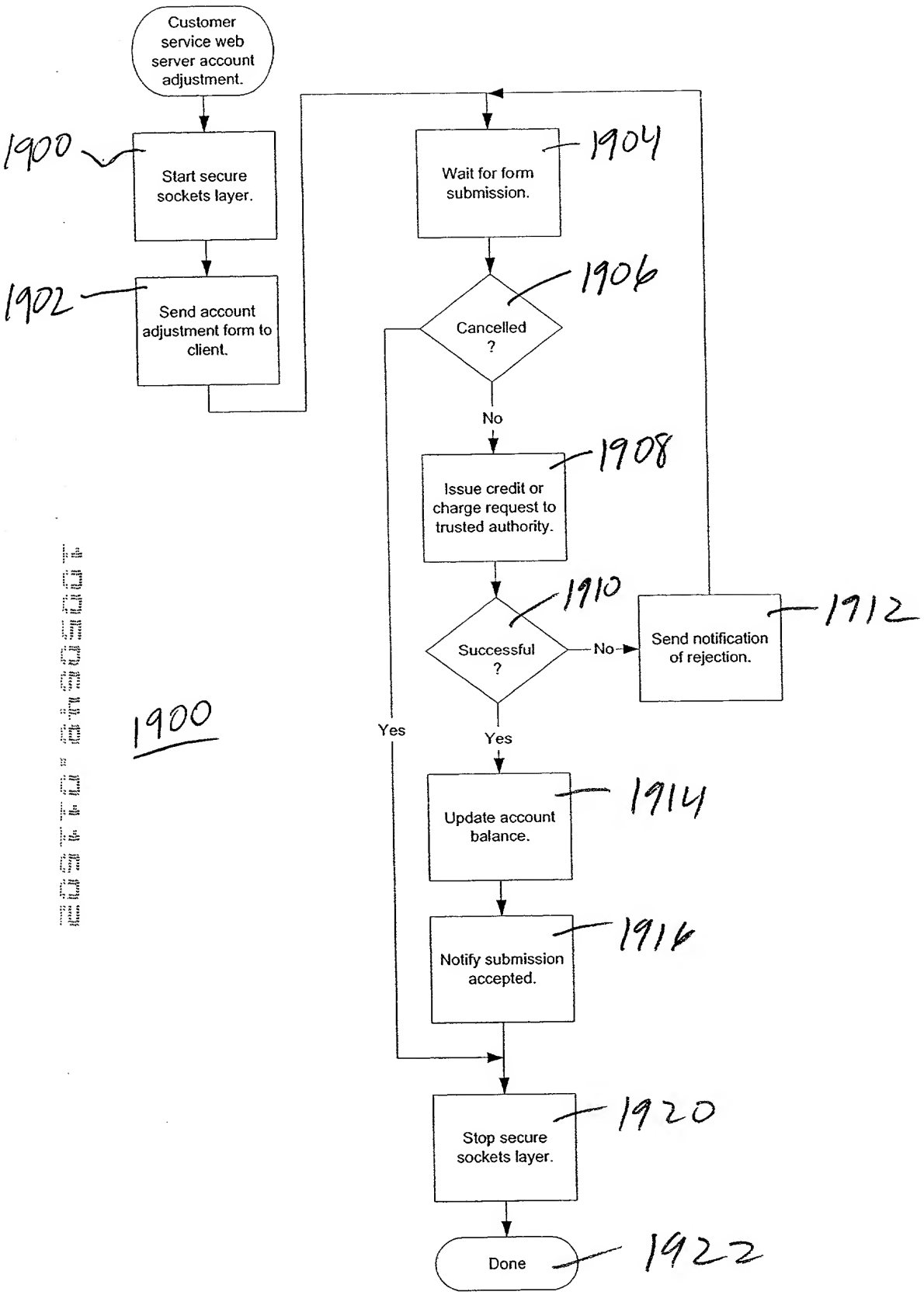

Customer service web server account adjustment.
1900
Start secure sockets layer.
1902
Send account adjustment form to client.
Wait for form submission.
1904
1906
Cancelled ?
No
1908
Issue credit or charge request to trusted authority.
1910
Successful ?
No
1912
Send notification of rejection.
Yes
Yes
Update account balance.
1914
Notify submission accepted.
1916
Stop secure sockets layer.
1920
Done
1922
1900

Figure 19